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Putting Honey on the Map

By Frank C. Pellett

THE Mid-West Horticultural Exposition, held at Shenandoah, Iowa, in November, was in many respects the best yet held. There may be such horticultural shows held in the East, but certainly not elsewhere in America. Shenandoah is a nursery center and is accustomed to entertaining large numbers of visitors. Unfortunately there was no building available of sufficient size to accommodate the show. Besides a large building, two big tents were used to cover the exhibits and then it was necessary to disappoint many exhibitors for lack of space to display their products. Truckloads of material were returned for lack of space to show them.

The show brings together the horticultural products of a wide area. Fruits, vegetables, flowers and honey from many states come together in competition for liberal cash prizes. Canada sent a splendid exhibit of apples, but, to the disappointment of the bee men, no honey exhibits came from our sister republic at the north.

It is not my intention to describe at length the wonderful displays of fruits, vegetables and flowers, although they were worth going many miles to see. The affiliation of the Iowa Beekeepers' Association with the Iowa Horticultural Society makes possible the honey show held in connection with the exposition, and the combined exhibits of the various societies provides a show of unusual extent and wonderful display.

Numerous conventions were held at the same time. The American Pomological Society, the Iowa Horticultural Society, the Vegetable Growers' Association, the florists, the Garden Club organizations, peony and iris growers and other organizations met in Shenandoah the week of the show.

This fortunate occasion gave the beekeepers an opportunity to see for themselves just what the American Honey Institute is doing. The local arrangements were in the hands of

Mr. and Mrs. Harry A. Pease, very enthusiastic local beekeepers, who, with their two boys, worked early and late to make the honey show a real success. The most effective part of the honey show was the tie-up with the work of the Institute, not forgetting the presence of Miss Mary Barber, of the Kellogg Company, who came to address the fruit growers on the place of "Fruits, Vegetables and Honey in the Diet."

It would be hard to estimate the benefits derived by the beekeepers from the work of the Institute at this show, which is only one example of what is being done somewhere all the time. Miss Fischer was on hand for daily demonstrations of the use of honey in the home. Her table was surrounded almost constantly by interested housewives who wished to see and hear about her various recipes. When she made up some particularly tempting dish before the eyes of the crowd and then passed it out to the hungry visitors it was the best possible means of making converts for honey as an article of use in the home.

There is no means of telling how many hundreds of homes now have honey on the table, where before there were none, as a result of the contacts made by the homemaker who visited the show. I counted about fifty persons seated in the honey department one morning before the crowd was really coming in, and these fifty persons were listening intently to Miss Fischer's talk about ways to use honey. When we remember that this continued in the afternoon and even in the evening, we realize that many hearers were reached by her message.

The personal contact, however, was not the big thing in this case. The radio stations KFNF and KMA co-operated most generously with the exposition, and Miss Fischer broadcast a message over both of these stations each day. Many of our

readers doubtless heard for themselves the radio talks. It is impossible to estimate the number of followers of radio talks with any degree of accuracy, but it is probable that at least a hundred thousand persons heard these daily lectures about honey. While individually beekeepers may not profit greatly from such help, the sum total of honey sold as a result of the interest thus created will be large.

At the beekeepers' convention Miss Fischer told about the work of the Institute in Iowa. Giving names and addresses, she outlined the contacts made in various Iowa localities. As examples, she spoke of a teacher of home economics in Des Moines who wished the series of booklets published by the Institute for each of her 150 students, and from Newton a similar request for 200 of each. To these requests it was possible to send only ten each for lack of funds on the part of the Institute. She gave a surprising number of such contacts all over Iowa where the Institute had created interest next door to the homes of the beekeepers present, and this was only an example of what is being done in every state. She stated that the work of the office is far behind and that they are not able to prepare the material and get it into the mails as fast as the demand comes in. At present they are about two weeks behind, and this is unfortunate, as it is important to reach the interested persons before their interest dies.

Iowa beekeepers responded liberally to the suggestion that local support for the Institute should be forthcoming. The Sioux Honey Association, composed of commercial beekeepers in the vicinity of Sioux City, contributes \$500 yearly to the work and in addition the Beekeepers' Association pays about \$50 from its treasury. About \$250 in subscriptions was raised at the convention, making ap-

proximately \$800 in cash support coming from Iowa beekeepers.

The honey show was equal to any department of the exposition. The competition was very close, with a surprising number of entries. There were 161 entries reported for case lots, and prizes were distributed widely over several states from Ohio to Nebraska. Prof. Francis Jager, of Minnesota, judged the exhibit, and he had a big job. The window displays were distinctive and showed unusual care in their preparation.

A group of women visitors who came for the flower show especially, when discussing the various exhibits, decided that the honey department was the most outstanding feature of the exposition.

Government Announces Examination for Beekeeping Assistants

Two examinations are announced for the United States Civil Service Commission, one for associate physiologist (apiculture), \$3,200 to \$3,800 a year; the second for associate technologist (honey), \$3,200 to \$3,800 a year. Applications for examinations for these positions must be on file with the United States Civil Service Commission at Washington, D. C., not later than December 10, so if any of our readers are interested they should make application immediately.

The examinations are competitive for vacancies in the Bureau of Entomology, for duty in Washington or in the field; open to all citizens of the United States. Competitors will not be required to report for examination, but will be rated on the following subjects: 1. Education, training, and experience (70 points). 2. Thesis or publication to be filed with the application (30 points).

The associate physiologist is to assist in planning work on the physiology of the honeybee, such as the effects of food on the development of larval forms and the effect of aging on the various organs of the honeybee. Applicants must be graduated from a college or university of recognized standing, with major work in physiology, and must have completed graduate work equivalent to that represented by the degree of Doctor of Philosophy, with physiology as a major, and biochemistry, physiological chemistry, organic chemistry, or physics as supporting subjects.

Experience in investigations on human or animal physiology may be substituted year for year for the postgraduate work.

Applicants must submit, with their applications, a thesis or publication of not less than three thousand words in length, of which the applicant is the author, on some human or animal physiological problem.

The associate technologist is to assist in investigations on handling and processing granulated, liquid and comb honey as it passes from the hive to the consumer, and devise equipment and containers for distributing and marketing. Such applicants must have graduated from a college or university of recognized standing, with major work in chemistry, and must have completed graduate work equivalent to that of Doctor of Philosophy, with chemistry as a major subject, preference being given to organic chemistry, and particular preference being given to work in carbohydrate chemistry, with physics or mechanics as supporting subjects. Experience in organic chemistry, particularly carbohydrate chemistry, may be substituted year for year for the required postgraduate study.

Such applicants must also submit a thesis of not less than three thousand words in length, of which the applicant is the author, on some phase of organic chemistry, preferably carbohydrate chemistry.

Applicants must not have reached their forty-fifth birthday on the date of the close of the receipt of application (except in the case of military or naval service preference, but such applicants must not have reached the retirement age). Applicants must submit photograph taken within two years, with their names.

Application form 2600 may be secured from the Civil Service Commission, Washington, D. C.; the Civil Service District Manager, Customhouse, Boston, Mass., New York, N. Y., New Orleans, La.; Postoffice, Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Calif., Denver, Colo.; Old Customhouse, St. Louis, Mo.; the Secretary of the U. S. Civil Service Board, Federal Building, Honolulu, Hawaii. The applications must be on file with the commission not later than the date specified. Give the exact title of the examination when requesting application form.

New French Regulation Requires Disease-Free Certificate

Our attention being lately called to the fact that shipment of honey from this country to France was held up at port of entry because of the lack of certificate of inspection declaring the honey to have been produced in disease-free apiaries, caused a stirring around to find what it was all about.

The regulation is contained in a law under date of July 3, 1930, and published in *L'Apiculteur* of August on pages 248-251 under the title,

"Minister of Agriculture, Contagious Diseases."

That part of the law which pertains to importations reads:

"Art. 1. There are added to the nomenclature of known contagious diseases to which measures of the law of June 21, 1898, apply, on the sanitary regulation of animals, the diseases of bees designated as follows: Foulbrood (refers to both American and European foulbrood), Acarine disease, Nosema.

"Art. 2. A decree of the minister of agriculture shall determine the sanitary measures applicable to these diseases.

"Art. 3. The minister of agriculture is charged with the execution of the present decree.

"Gaston Doumergue.

"Done at Paris, July 3, 1930.

"By the President of the Republic."

"Art. 10. Colonies, queens, as well as honey and wax, in all forms offered for importation by land or by sea, can only be introduced into France if they are accompanied by a certificate of origin and of non-infection, granted by a veterinary surgeon or other agent duly qualified or agreed by the 'State' (l'Etat). This certificate, endorsed by the administrative authority of the place of origin, must attest that in the aforesaid locality for six months previous there has been observed on the bees none of the contagious diseases provided for in Article I of the decree of July 3, 1930."

The enforcement of this law may further reduce our exports because of the difficulty in furnishing certificates, although we have heard from Mr. Todd, the inspector of California, who says that they have already certified two shipments of honey to France under the new regulation, and in both cases the certificates were honored.

Those who export honey, in making up their shipments under this law, will have to be sure of certificates.

Francis Adam Snell— 1842-1930

Francis Adam Snell, of Milledgeville, Illinois, passed on September 16. He had been a citizen of the community seventy-two years and had lived within three months of his eighty-eighth birthday.

He obtained his first bees when a boy 14 years old in northern New York and has been a beekeeper and student of bees ever since. His honey customers reach from Montana to Massachusetts. In addition to this, he built up a local seed business which was prosperous.

"New" Grass Species Makes New Land

Oozy mud flats in Holland are being turned into farms, and watery wastes at the mouth of an English river into good pasture, by a species of grass that seems to be something new under the sun. It is known as rice grass, answering botanically to the name *Spartina townsendii*. Its origin is a mystery, but it has been suggested that it is a brand new species that sprang from the crossing of a native species of *Spartina* with an American species established in the British coast from earth ballast dumped by ships.

It was never seen before 1870, when a few plants of it were discovered in the muds of Southampton Water. Instead of remaining in the humble status of a rare species it has spread rapidly, filling up the swampy flats with its tough roots and raising the ground level with its matted tops, which finally grow together, closing up the separating channels and forming level green meadows that form the best of late fall pastures.

In England the need for new land is not keenly felt, and no systematic program for reclaiming tidal flats by means of this land-making grass has been attempted. But in Holland, where land is very much at a premium, great areas of watery mud near the mouth of the Scheldt have been planted with rice grass. Its round clumps now form innumerable tiny islets, which are expected to coalesce in a few years and eventually to make good farm land.—S. S.

It Takes Salesmanship to Sell Honey

Three years ago we sold nearly four thousand pounds of honey from our grocery store. Two years ago we didn't have much, and bought a ton of slightly mint-flavored honey, which we had hard work to sell. Last year we took back any of this on hand and exchanged it for white clover.

Last year we sold over six thousand pounds of extracted honey and twelve hundred sections at retail and a ton wholesale. This year so far we have sold nearly a ton of extracted honey and six hundred sections.

We would like you to challenge any other store anywhere in the country for sales beating our records from the common grocery or bakery store.

We did this by catchy, informative advertising and always keeping a nice display of honey before the people. Every year the high school professor invites me in to tell the new class in biology what little I know of bees and honey, and I always go the limit. I gave a talk before the parent-teachers' association and got a lot of kick out of it. B. C. Hall, Iowa.

Charles Duff Stewart



A year ago this December, Charles Duff Stewart passed on in California; in many ways one of our most conspicuous beekeepers and always an active leader and worker for the best interests of the industry. In this number we are publishing a Christmas story from him, "How the Honey Came in the Christmas Dates." It is so well written that we are sure both our older and our younger readers will appreciate it at this Christmas season.

Charles Duff Stewart was a native Californian, son of a forty-niner. He was an enthusiastic beekeeper, loved the soil and everything pertaining to it, and he contributed articles on beekeeping to the bee papers and, we believe, was the first to start the statistics on exports and imports which later became a part of the Federal market report. He applied to apiculture a fine legal mind, trained also in accounting and kept alert through exhaustive study of many subjects.

Regarding the story, Mr. Stewart wrote it originally to amuse a sick boy who was a shut-in during the Christmas holidays. The story was wrapped around a box filled with dates stuffed with candied honey. It fell into the hands of the boy's teacher. She has read it to her class each year since as a part of the English work. Later Mrs. Stewart added the character Bobby.

Honey in Chop Suey Candy

Honey is one of the principal ingredients in chop suey candy, put out in pound boxes, in an oriental-looking package by the fourteen Gibson's candy store in Providence, Rhode Island. F. H. Madison.

Harry Cross, of El Centro, Expresses Himself

Mr. Harry Cross, of El Centro, California, owns and operates seven hundred colonies of bees. He says that he is away down there in the southern part of the state where he doesn't have much of a chance to get in touch with his beekeeping brethren in other parts of California. But Mr. Cross subscribes for two of the best bee journals in the world, maybe more; he mentioned two, anyway. In fact, he mentioned a third, but fears that one has gone entirely dead.

Judging from the kind of letter Mr. Cross writes, lonesome feelings may help toward clear thinking. For one thing, he puts thought and careful planning into the management of his apiaries. Any man working seven hundred colonies of bees has to do that or he cannot be a real beekeeper. Another mark of up-to-dateness is eternal vigilance for infectious disease. Mr. Cross says that he not only looks for disease and carefully eradicates it wherever he finds it, but he even goes so far as to buy infected apiaries and clean them up. That's going some; and it is the real stuff. May his generation multiply until it fills the beekeeping world!

In regard to the movement of bees, Mr. Cross thinks that regulations should be strictly enforced. Diseased bees should not be moved at all; and, in the case of healthy bees, "any reasonable inspector will give the permit." So there is no good reason for anyone trying to evade the law.

Mr. Cross' experience leads him to believe that clean apiaries can be maintained without using drastic methods of destruction. He says: "There are a lot of bee men who are not real bee men; but they own and handle bees, and they have to be handled rather severely. But I don't believe there is anything gained by burning a lot of good material."

In regard to the danger attendant on the burning of infected materials, Mr. Cross has this testimony to offer: "I saw one case where coyotes had dug up the ground where one man had burned and filled up the pit. Those germs could lie there for years and then something bring them up." The truth of that last statement could hardly be doubted.

R. B. McCain, California.

"Honey-Linseed Poultrice," for Cold Treatment, Said Queen Elizabeth

This prescription for a cold was advised by Queen Elizabeth: Take a quart of new milk, put into it two spoonfuls of honey, four ounces of linseede, and as it boyles put in pieces of scarlett or redd cloth and laye one peece on your stomach and one opposite to that on the backe, and soe goe to bedd; sweat and you shall be well.



EDITORIAL

AMERICAN BEE JOURNAL

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The Breeding of Bees

The July-August number of the Russian bee magazine *Opitnaya Paseka* contains an article written by A. S. Mikhailoff entitled "On Two Mutations of the Honeybee." The article is of particular interest and importance in that it is probably the first recorded clearly successful experiment in analyzing the genetical relationships of a character in the honeybee. The fact that this genetical investigation would have been quite impossible except for instrumental insemination brings renewed interest in the possibility of Dr. Watson's method of controlled mating.

Mr. Mikhailoff obtained from a co-worker in the south of Russia a queenbee half of whose sons had white eyes and half had normal black eyes. He mated one of the white-eyed drones to a Caucasian virgin queen and noted that the offspring of this mating all had normal black eyes.

He now reared queen daughters from the original mutant queen from south Russia, and when they became adolescent he mated one of them to a white-eyed drone and obtained drones and workers with white and with black eyes in equal proportion. This is as far as he could go in one season, but he observed in closing that had he mated a white-eyed queen from this cross to a white-eyed drone from this or any other cross in that family, he would doubtless have obtained only white-eyed offspring, and these would ever afterwards breed true to white eyes.

He has shown that the particular white eye found in his south Russian queen is a simple Mendelian character, and it appears to be inherited exactly as is white eye in *Drosophila melanogaster*, and color blindness in folks. The queen herself was a monohybrid.

This is probably the beginning of what may prove to be a very important work in the breeding of the honeybee. What the ultimate results will be to the industry no one can foretell, but this experiment ably demonstrates that the breeding of the honeybee can now be controlled as is the case with other farm animals.

Betty Crocker's Broadcast

The beekeepers of America are under a great obligation to the General Mills, Incorporated, for the wonderful cooperation given the "Honey for Health" Week, when Betty Crocker gave her period of radio broadcast over the National hookup to this subject. Betty Crocker is a pleasing speaker and has the knack of making her subject very interesting. She evidently "knew her honey," for she gave a pleasing and accurate account of the qualities of our product, with examples of dependable recipes. Honey has suffered in the past by recommendations for uses to which it is not well adapted. The housewife who tries the recipes Betty Crocker rec-

ommended is likely to remain a friend to both honey and to Gold Medal flour as a result.

When recipes are offered over such a vast network as that over which she spoke it is impossible to measure the ultimate results. It is to be hoped that Gold Medal products will profit as much from the tieup with honey as the beekeepers benefit from the cooperation of Gold Medal. The cooperative advertising of natural foods such as fruit and honey with manufactured products is reaching vast proportions and opening avenues of publicity entirely beyond the reach of the small farmer who lives from the land.

Such cooperation is only possible through an organized agency such as the American Honey Institute, and unless the Institute receives the general support of the industry its usefulness will be greatly restricted.

Our Honey Markets

The present condition of the honey market is far from satisfactory, yet there are many encouraging features. The German tariff has prevented the usual volume of American honey going to that country and this has left a surplus at the larger centers.

However, numerous new outlets for honey have recently appeared and the indications are that some of these will furnish a permanent market. The use of honey in candy and in the baking trade is showing a marked increase. It will take some time for these new fields to develop to the point where they will make use of the millions of pounds which formerly went to Germany, but every new consumer helps.

In some localities beekeepers report a better demand as the result of special publicity, such as that secured by recent radio talks or special advertising by concerns who suggest honey in connection with their own products. With the return of normal business conditions it is thought that the demand for honey will show a marked improvement.

Honey Profits Again

The November 1 issue of Saturday Evening Post contains a full-page ad in color for DuPont Cellophane. The same advertisement in black and white appears in *Printers' Ink* for November. Among other articles featured is a section of comb honey wrapped in the Revelation wrapper with the words "Eat More Honey" staring every reader full in the face. The reports are very general that the use of the transparent wrapper has increased the sale of comb honey. The housewife feels that honey wrapped in this manner is clean and sanitary.

Honey is receiving much favorable advertising by firms who refer to it in connection with their own products, as happens in this case.

Shifting Pasturage

That there are great changes taking place in the bee pasture of the United States is apparent to even a casual observer. So much has been written about the spread of sweet clover in the plains region that beekeepers are generally familiar with conditions there. There are many places farther east, also, where sweet clover is providing good bee pasture in neighborhoods which were formerly poor locations for bees.

There are other changes also, which are not so favorable. In some irrigated valleys of the West, where

alfalfa was formerly grown in large acreage, sugar beets have replaced the alfalfa to a great extent. Since sugar beets offer no bee pasture it has come about that bee men, settled in localities which were formerly very favorable, find themselves with insufficient pasture for their bees and under the necessity of moving elsewhere.

There are reports also from Texas to the effect that neighborhoods which formerly were the source of large quantities of honey from huajillo and catsclaw are no longer profitable for beekeeping because cotton has replaced the native shrubs.

Such changes are general and often occur quickly. Much of the Red River Valley in North Dakota which was recently regarded as the best bee pasture in America has a short crop this year, with a poor prospect for next year also, because of the reduction in the acreage of sweet clover. The dairy regions where the clovers are grown year after year with little change offer the most permanent beekeeping locations.

Package Bees for Orchards

There is every reason to expect an increasing demand for package bees for use in the orchards. Few orchardists are trained as beekeepers, and many of them prefer to have as little to do with the bees as possible. There is a real demand for a fool-proof package in which the bees can be carried to the orchard with nothing for the receiver to do but open the entrance and release the bees. Such a package must provide the bees with sufficient feed to insure safety until the blooming period is past, and it must also release the maximum number of bees for field work. The bees that remain clustered in the hive pollinate no blossoms.

Much time and expense has been necessary to develop the package now used in shipping live bees from the southern breeder to the northern beekeeper. The present cages meet this need very well. Just when the shippers feel that their shipping troubles are over as far as cage design is concerned, a new need appears. So far none of the packages we have seen meet the demands of the orchardist who wants to manage the bees on the let-alone plan and dispose of them when the bloom is over.

Honey in Ice Cream

In the July number of "Milk Plant Monthly," published in Chicago, is an article on honey in ice cream, with special reference to honey-coated ice cream bars, by P. S. Lucas, of the Dairy Section of Michigan Agricultural Experiment Station. In the September issue of the same magazine is an article by P. H. Tracy, H. A. Ruehe and F. P. Sanman, of the Division of Dairy Husbandry of the University of Illinois.

The "Milk Plant Monthly" circulates among manufacturers of dairy products and articles of this kind should arouse interest on the part of makers of ice cream. The articles are valuable in that they give definite information concerning the cost of honey in comparison to sugar, as well as particular instruction for its use. It has been found that the practice of manufacture must be varied where honey is used in place of sugar and that lower temperatures are necessary.

The writer cannot remember that there has ever been a time when there was so much interest in the use of honey as an ingredient in manufactured products as has been apparent of late.

Peculiarities in Nectar Secretion

In the September issue of "Bee Kingdom," published at Cairo, Egypt, there is an article praising the portulaca as a honey plant. A list of four species is given, mostly from the tropics. The statement is made that portulaca yields abundantly under varied conditions and gives a sainfoin-like, delicious honey.

The sun-plant, *Portulaca grandiflora*, one of the species named, is cultivated in American gardens, but the small numbers of plants present could hardly be of value to the bees. There are, however, several native species, commonly known as "purslane," which are widely distributed weeds in fields and gardens. The chief charac-

teristic is the thick stems and branches, which lie prostrate on the ground. The minute flowers are not showy like those of the cultivated species above mentioned, but the writer does not remember ever having seen a honeybee visiting one of the purslanes. If the bees do visit them, it must be so infrequently as to be of no importance as a source of honey.

This emphasizes the necessity of every beekeeper making a careful study of the honey flora of his particular location, since plants behave so differently under changed climatic conditions that one is never sure what to expect.

The Holiday Season

This number closes the seventieth volume of the American Bee Journal. Our industry and the world in which we live have greatly changed in the years since the magazine was established by Samuel Wagner in 1861, but the holiday spirit remains the same. We wish to extend to every reader our sincere good wishes for a merry Christmas and a happy new year. We trust that this year has brought you a measure of happiness and contentment, but we wish you a larger measure in the year ahead. The finest things in life are always within our reach, and whether business be good or bad, good will, good fellowship and a happy spirit are largely dependent upon ourselves.

Death of Frank Rauchfuss

We have just received a message informing us of the death, from pneumonia, on November 19, in Denver, Colorado, of Mr. Frank Rauchfuss, manager and secretary of the Colorado Honey Producers' Association, who was also the Denver agent for the purchase of bee supplies and the sale of honey.

Mr. Rauchfuss was for many years in charge of the entire business of handling the crop of Colorado's principal honey producers. We cannot exhibit the efficient manner in which he handled the honey of the greater number of beekeepers of his state, better than by quoting a part of his report to the Association in 1907, as published in the American Bee Journal on March 31 of that year. He said in part:

"Our Association is now well known to every carload buyer of honey in the United States. We have the reputation of shipping a well-graded article, put up in an attractive manner, and of being thoroughly responsible. This reputation is our most valuable asset and it behooves every member to do his share in upholding the same by putting up nothing that is not strictly up to grade."

Of the hundreds or perhaps thousands of carloads of honey shipped by him from Denver, Mr. Rauchfuss never permitted a single crate to go to the wholesale dealer without examining every part and making a strictly graded selection, so as to offer nothing for sale which was not graded properly. Thus was established the reputation of Colorado honey.

We will give a detail of Mr. Rauchfuss' life in another number of this magazine.

The Beeswax Market

The price of beeswax has declined in a disconcerting way. Several things seem to be responsible. General business conditions are unfavorable and the trend of commodity prices is generally downward. The worst feature of the situation is the tendency of industrial users to substitute other and cheaper waxes for beeswax. Both vegetable and mineral waxes come into competition with beeswax for manufacturing purposes, and some of these waxes with physical properties similar to beeswax are selling at much lower prices.

There has been some agitation for a tariff on beeswax. This would be of little help unless the other waxes in direct competition with beeswax were also subject to duty. At present such waxes come in duty free.

Let us not be discouraged. Beeswax is an expensive product of the hive, and the less we produce of it, the better the bee business pays. Keep your bees supplied with comb and do not cause them to produce wax unnecessarily.

How the Honey Came in the Christmas Dates

By Charles Duff Stewart

BOBBY in nightgown and bare feet stood blinking at the Christmas tree. He rubbed his eyes and stared harder. Yes, there it stood near the chimney, glistening in the firelight and all trimmed with candles.

"Santa Claus must 'a been in a hurry," thought Bobby as he viewed the gifts strewn about the floor. Or was it his dad, after all, who had left the room in such disorder?

Bobby wanted it to be Santa Claus in spite of Saidee, his nurse, who laughed at him and told him "only very little boys believed in Santa Claus any more." That is why he had stolen down to the living-room at midnight to find out for himself. But he was too late. Now he would not know till next Christmas and Saidee would laugh at him again.

It was very quiet in the big room. Bobby sat down on the bear-skin rug in front of the fire. He looked at the toys and wondered what was in the boxes and bundles. He mustn't play with the soldier men, horn or marbles. That would make a noise and wake mother; but he could open bundles as still as a mouse. There was one right at his feet with his own name on it in large letters like his alphabet blocks. He would just peek in. He pulled it forward with his toe and untied the wrapper. The box was filled with dates.

Bobby remembered his loose tooth and bit into one very slowly and carefully; but there was something soft and sweet that melted in your mouth stuffed in the center of the date, where he expected to find the hard pit. He took another bite.

"It's honey!" Bobby was so astonished he almost said it out loud. He bit into another. It was the same.

Bobby's Uncle George had just brought the dates from California, and the honey, too, and had told his young nephew wonderful tales of fruit and flowers at Christmas time out in his wonderful West. But, "I wonder how the pit got out and the honey got in?" whispered Bobby drowsily, his head nodding from side to side and his eyes closing.

"Come with me and I'll show you," a voice whispered back. "Hurry! it's a long way even for a bee."

Bobby felt himself lifted up through the chimney, above the roof, an airship, but soon discovered that ing. He thought at first he was in a nairship, but soon discovered that he was on a long, hairy cushion with a crook in it where he could curl up and be comfortable. He did not know how long he traveled in this fashion. At last he was waked by a downward swoop of his vehicle that landed him on a porch without any roof, and a voice was saying:

"Go right in; the Queen expects you."

Bobby tumbled out of his nest, which proved to be the crook in the hind leg of a bee, where balls of pollen are usually carried. There was no door in what appeared to be a huge box—just a long, low space—and Bobby had to lie on his stomach and crawl in as he saw his escort do. An icy wind came in the entrance and, as the large room was divided by a number of walls or partitions that appeared to hang from the ceiling and did not reach the floor, it was cold and draughty. But the partitions came so close to the floor that Bobby could stand only between the walls, so he continued to crawl until he heard a murmuring as of running water and felt a breath of warm air on his face. Bobby was in the center of a beehive. The murmuring sound was made by the bees.

"Listen!" ordered his guide; "the Queen is about to begin the Christmas story."

Bobby looked up. A curious sight met his eyes. All the bees in the hive were huddled between two frames. He stood up. The bees separated to make room for him. Above them, at the very top of a partition, sat a golden bee surrounded by a circle of devoted attendants. All eyes were fastened on her. It was the Queen. When she saw Bobby she smiled at him and explained that once on a time her colony had acted in a very foolish manner, so each Christmas eve she told them the story as a lesson and a warning. She then invited him to stay and hear it.

Bobby's head and shoulders were now warm, but his feet, still resting on the floor, were quite cold. He wished he had a high stool so that he might pull them up and sit on them. Meanwhile the Queen had settled herself in a more comfortable position and began:

"In the year after the big rain, grass covered the fields. The hills were gay with wild blossoms and flowering shrubs and the orchards were white with bloom. Never had there been such a flow of nectar, and all summer the honeybees had been busy packing it into the hive. They were far too busy to store it away neatly as they had been taught when they were quite young bees. They were eager to be out in the warm sunshine again, so they dropped their loads in the hive wherever it was most convenient. The bees that brought the pollen scraped it off their legs and left it lying on the floor; others put nectar into empty cells that had been polished ready for the Queen Mother to use as a cradle for baby bees; and still others dumped

their loads where baby bees were already cradled.

"'You should remember when you were nurses yourselves how hard it was to keep the children well,' scolded the nurse bees as they licked the honey off the babies, while the Queen Mother ran about half distracted with the care of so many children.

"But all through the golden autumn the field bees kept right on packing in their treasures until the sun went down and the shadows drove them home for the night. All managed to get inside the door of the hive, but they were wedged so tightly they could scarcely breathe.

"One night as the Queen sat fanning herself with her wings she called her attendants around her. 'Tell the bees to keep quiet so I can speak to them,' she commanded.

"'Stop humming! stop humming! the Queen wishes to speak,' the attendants cried. Soon all was quiet and the Queen began:

"Our family has grown too large for this house. It is not good to rear baby bees without fresh air, and there is so much noise that it is hard for the nurses to get them to sleep at night. Then, too, the older bees are getting careless in leaving honey about. The children are eating between meals when the grown-ups are not looking, instead of waiting until the beebread is ready. So tomorrow we will find another house and I and the older bees will move into it. Of course, the baby bees must stay here with their nurses till they are old enough to fly."

"For a second not a bee spoke. Then an old bee drew her head from an empty cell where she had been taking a nap and turned to the Queen.

"'Do you mean swarm out?' she asked.

"'I think that is what men call it when we leave a hive,' replied the queen.

"The old worker bee shuddered. 'You mustn't think of it! No one ever heard of bees swarming so late in the season. Tomorrow will be the day before Christmas. Listen to an old bee—old enough to be your mother. I was grown when our old Queen Mother died and you were a baby in the cell. Many a time I have fed you with royal jelly and kept you warm with my body at night. See, my wings are all broken and torn with flying out to bring food into the hive. All my sisters are old, too. We cannot live through the winter. Soon there will be plenty of room for you and the young bees.'

"'You may stay here with the children then, and the nurse bees will bandage your wings,' returned the

Queen kindly, for she was very fond of her old foster-mother.

"Winter is coming . . .," urged the old worker bee, but the Queen had summoned her tall, strong scouts around her and did not hear.

"The weather is beautiful," declared one scout, and "I know a lovely tree to live in," sang out another. "There are green leaves for a roof and it is full of fruit."

"Don't listen!" begged the old worker bee, but no one heard her.

"Tomorrow our scouts will lead us to the tree," cried the Queen.

"At once there was an excited buzzing through the hive. Not a bee slept that night. All were busy making ready for their flight.

"Next morning the Queen and her attendants passed out, followed by the field bees carrying great stores of honey which they had packed in their stomachs for their new home. The scouts were in the lead, and among the attendants was the old worker bee, who tried to keep near to the Queen. The air was full of bees, all talking at once.

"They flew a long way. At last the scouts led them to a date tree and they settled in the branches at the top to rest. It was almost noon and the sun was unusually bright and warm for the Christmas season. The old worker bee wanted to keep right on till they found a more sheltered nest in a box or a hollow tree, but the bees were tired of living in a dark place. They liked to be out in the light, so they cuddled closer beneath the leaves in a huge cluster—all except the old worker bee, who flew here and there with a troubled, buzzing sound. Something was wrong with the leaves. They were still green, but they hung limp and the fruit was cracked open.

"Old King Frost was visiting round here last night," she muttered, sniffing the air. She flew round and round the cluster of bees, trying to speak to the Queen. "The leaves are dying! the leaves are dying!" she cried.

"Go away," impatiently ordered the Queen. She then commanded the field bees to start building wax cells to put their honey in. But the bees were tired and would not obey. "We have worked all summer long," they told her. "Wait till after Christmas!"

"You're just tired because you are full of honey!" With that the old worker bee flew slowly away.

"The old lady is right," spoke up one of the scouts. "I've unloaded my honey and hid it away."

"Where?" chorused the others.

"Guess!" hummed the scout, darting from leaf to leaf.

"I know," buzzed another scout who had been running about poking her nose into the cracks of the frost-bitten dates. "See here!"

(Continued on page 594)

Don't Freeze Your Bees

By Ernest Robinson



Fig. 1. Hives here are placed in rows ready for packing, and stakes are being set up to form the framework

A severe icy winter may mean a heavy loss to bee owners, but Mr. Everett Price, of Toulon, Illinois, packs his hives for the winter and prevents this loss. When other beekeepers in this vicinity lost 50 per cent or more of their swarms, Mr. Price lost only one out of thirty. This was during a particularly long icy spell.

About the first of November, Mr. Price sets his hives in rows of seven or eight hives to a row and about a foot apart. He then sets a row of stakes in the front and another in the

back. Other sticks are nailed across from front to back as rafters (Fig. 1). Long boards may be placed horizontally to hold the framework together. This frame is then filled with straw and the whole covered with rubberoid roofing, leaving only the entrances to the hives open.

If your winters tend to be severe, the small amount of work involved is well repaid by the better condition of the bees in the spring and by the elimination of loss by freezing.

(Avoid having straw with grain in it, as it attracts mice.—Editor.)



Fig. 2. Hives packed, ready for a severe winter

The Mutillid Wasp an Enemy of the Honeybee in Europe

By Erwin C. Alfonsus

THE Mutillid wasp, also called velvet ants, bee ants, cowkillers, are some of the most beautiful insects among the Hymenoptera. A shining pubescens, velvet-like in appearance, clothes the entire body, showing a neat and pleasing coloration.

According to Clarence E. Mickel's "Biological and Taxonomic Investigations on the Mutillid Wasps," U. S. National Museum, Bulletin No. 143 (1928), about four thousand species of this parasite have been described over the world, but only the hosts of thirty-nine species are known at present. The North American species are mainly parasitic on solitary bees and wasps; the European species infest the nests of bumblebees, while three African species prove to be beneficial by parasitizing the tsetse fly (*Glossina Morsitans*).

Their parasitism differs greatly from that of other parasitic Hymenoptera. The female deposits one egg in the pupa of the host species. The young after hatching undergoes its metamorphosis within the cocoon of its host, spinning a cocoon of its own, so the *Mutilla* when emerging must chew its way through the walls of two cocoons.

The female is wingless and resembles very closely a large ant. She bears a large sting that appears very useful to puncture the cocoon of the host in oviposition; it also seems well adapted for defense. The winged males are more slender in structure and feed on the nectar of flowers.

The first case of a *Mutilla* attacking the hive of honeybees in Europe was reported by Schoenfeld, 1878, in the "Eichstaedter Bienenzeitung," Vol. 34. He published a letter of P. Coelestin Schachinger of Lower Austria, followed by his own remarks. Schachinger observed on several occasions a female of the *Mutilla europea* entering a beehive. Soon bees appeared at the entrance engaged in a death struggle, exhibiting the symptoms of poisoning. As many as two hundred dead bees were found at the bottom board within twenty-four hours.

A *Mutilla* remaining in a hive decreases the population conspicuously and sometimes may cause a total exhaustion of a colony. Schoenfeld, as well as Schachinger, recognizes the sting as the deadly instrument. The rather short mandibles did not seem to be fit for any murderous purpose, not even to seize or to hold a bee. Schachinger thought that a *Mutilla* enters a beehive in order to deposit her eggs.

The hard chitinous armor provides

a protection against the sting of the bees, which sacrifice their lives in fruitlessly combatting this intruder. Schoenfeld observed the extraordinary nimbleness and skill of the *Mutilla* when using its stinging apparatus, though he thought it possible that the bees kill each other on becoming irritated and excited.

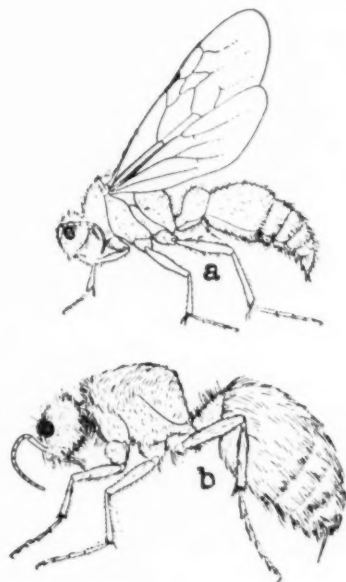
A year later, in 1879, another case of *Mutilla europea* injurious to the honeybees was reported by Scholz in the "Deutschen Bienenfreund," Vol. 15. Scholz's observations differed in several points from those of Schachinger and Schoenfeld. A *Mutilla* en-

trol has also become simplified in the modern hive. Several female specimens of *Mutilla europea*, caught in the beehives, are sent in every year to Dr. A. Himmer for identification, at the Landesanstalt fuer Bienenzucht in Erlangen (Germany). They seem to appear quite frequently in beehives in certain parts of Austria and southern Germany. An experiment by Dr. Himmer introducing a *Mutilla* into a beehive shows results similar to the observations of Schachinger.

In 1923, Vol. 55, "Bienen-Vater," Dr. L. Arnhart, of Vienna, introduces for the first time *Mutilla differens* Lep. in relation to the honeybees. A live female accompanied by a written explanation was sent to Arnhart by a beekeeper from the province Salzburg (Austria). This insect was captured on examining a colony that appeared to be queenless. The queen and a few worker bees were found dead at the bottom board. Another specimen of the same species was found by the bee master J. Stumvoll of the Austrian Beekeepers' School in Vienna. It was found while examining a Carniolan hive which had just been received from Carinthia, Austria. Nothing has been reported about this *Mutilla* being injurious to the colony where it was found.

Another report of *Mutilla differens* as an enemy of the honeybee, by Arnhart, appeared in the "Kaerntner Biene," Vol. 3, 1929. A Carinthian beekeeper, Mr. E. Dietrich, sent a live female of *Mutilla differens* to Dr. Arnhart, also several dead bees which *Mutilla* had killed. According to Dietrich's observations, this wasp is quite common in Carinthia. It frequently attacks beehives, where it starts its murderous activity among the bees. In one night the bottom of the hive might be covered with hundreds of dead bees. It remains in the hive for several days and the disturbance may be serious enough to make the colony an unprofitable one. The *Mutilla* runs over the combs, seizing bee after bee. It holds bees on the back, turning its abdomen forward, possibly to use its sting. Sometimes it crawls into cells, remaining there for short periods. The bees do not seem to attack the *Mutilla*.

Dr. Arnhart, on examining the dead bees, found the following symptoms: The abdomen appears contracted; proboscis, legs and wings are stretched forward as they appear on bees killed from ether. The *Mutilla* showed a great liking for honey, and after a sufficient meal of it, Arnhart introduced her into an observa-



Mutillid wasp. (From Metcalf.)
a, male; b, female

tered a beehive on a bright day unmolested and disappeared in a mass of bees. A few days later about thirty dead bees were found at the bottom board, and the *Mutilla* had been observed riding on a bee, holding the bee by the neck with her mandibles, as though to suck on the bee in a vampire-like manner.

Scholz also observed a colony of German bees on stationary comb in which a *Mutilla* caused disorder. The population of this hive decreased slowly, but constantly, so the owner thought this colony to be queenless. An Italian swarm was transferred from a shipping box into this hive. Later a large German queenbee was found stung to death at the bottom board. The colony had never been queenless, but the presence of the *Mutilla* checked its development.

Since the movable-frame hive replaced the stationary comb skep, the discovery of this intruder is much easier and occurs oftener. The con-

tion hive by permitting her to run through the entrance. The Mutilla did not take notice of the bees coming her way and the bees did not pay any attention to the visitor. It passed over combs and disappeared for short intervals in masses of bees. Nothing conspicuous could be observed in the day time—not on the first nor on any of the following days. In the morning after the first night, twenty-one dead bees were found at the bottom, nineteen of them showing the symptoms of the bees sent in. From those observations Arnhart draws the following conclusions:

1. The Mutilla is a serious bee killer.
2. The Mutilla kills bees only at night.
3. It is very fond of honey.
4. The bees do not pay any attention to the Mutilla in the day time.

There is only one case known of Mutillids attacking beehives in the United States. C. V. Riley (1870) published a letter from a beekeeper at Clarksville, Texas, giving information on this subject as follows:

"A few days since, while in my apiary watching a hive at work, I observed a very large female (cow-killer) running over a flowering peach tree that overshed the 'gum.' Finally she came down and entered the hive. I tilted the 'gum' to see what she was doing, and found a number of bees trying to dislodge her, but to no purpose. Whenever she could shake them off sufficiently she would continue her march over the bottom board in search of food, picking up fragments of combs and young bees and occasionally sending a bee to its final account with her formidable sting, and caring but little for their rage and fury; encased as she is in her impenetrable armor, she bids defiance to the puny stings of bees. Finally I had to come to their aid. Since then I had to free several other hives of these depredators."

It would be of interest to hear whether there have been any other cases of Mutillids attacking honeybees, that have been observed or reported. Since there are species of the Mutillid wasps distributed nearly over the entire North American continent, occurrences like the one mentioned above are possible.

Honey Cold Remedy

Combless honey, two teaspoonfuls; cream of tartar, one-third teaspoonful; spirit of camphor, five to ten drops; essence of ginger (or pinch of powdered ginger), five drops.

Add half a cup or more of hot water, stir, and drink hot. Take hourly or as required.

E. W. Peirce Co.,
Zanesville, Ohio.

Marketing Honey in Non-Producing Areas

By J. H. Sturdevant.

AT this time of year (September) it would seem that our attention might properly be taken up with marketing of honey. Beekeepers in the South and in regions where little honey was produced this season ought surely this year to get in touch with the producers in the central and plains regions, where the crop is somewhat above the average, in small areas at least.

For instance, in the northeastern part of Nebraska the flow has been fair and still continues to this date (September 7) with the promise of continuing until frost. Of course, freight is a serious problem from such states as Utah or Nebraska to Texas or New Mexico points. The extra cost of freight however, can be added to the cost of the honey, and, even with the cost of selling, a living profit can still be made from honey sales for beekeepers whose own crop has been short.

Honey dealers everywhere add profit to their sales so why not the beekeepers themselves? We should not need brokers and wholesalers and grocery retailers to help us.

While we are often offered anywhere from 5 to perhaps 9 cents for honey, if we were to go into almost any city store and ask for honey the price may be anywhere from 40 to 80 cents in glass or correspondingly high if packed otherwise. It would seem to me that beekeepers should keep some of this profit among themselves.

It is my suggestion that beekeepers who do have honey should supply their home customers at a cost-plus price. The greatest difficulty in the sale of honey which we do not sell personally rests with the fact that we cannot get the right sort of help at distance from home. Beekeepers in other places can help sell the honey of those who have a surplus to the advantage of both.

Perhaps one of the boys can be sent to school through the sale of honey procured from beekeepers like ourselves here in Nebraska, and make a profitable transaction for all concerned. I have helped several small girls to carry household expenses by selling honey, evenings after school. I helped a blind student as well as other deserving folks in this way.

I find the rural mail carrier very satisfactory for conducting a volume of sales around his own home. Of course the Government does not permit an R. F. D. carrier to engage in another line of business, but then it does not say that his wife or his son or his daughter cannot do it while he holds the lines. There are a number of concerns that furnish the names of these carriers at so much per hundred or thousand.

No Two Honey Stands Alike

The auto tourist who keeps an eye open for honey stands along the roads he travels will be enlightened often, and sometimes amused, by what he sees, and hears. For one thing, he will see an almost endless variety of honey offered for sale. Some of it will be most excellent in body, color and flavor; some of it could be classed very well with sorghum molasses; and there will be found samples of all kinds and varieties between the two extremes.

But differences in quality will be found to be no greater than the astonishing variation in price. There seems to be no rule or standard by which either seller or buyer can judge its price. Honey is honey, and the price of it is what you seem to be able to get for it. A five-pound can of honey may sell, at the roadside stands, all the way from 65 cents to \$1.50. Much of the honey offered for sale in this manner is put up in green-glass fruit jars, which hurts the color. But even where the honey is bottled in crystal glass there is often a strange inconsistency in the price scale. For example, a certain stand was selling a 21-ounce glass jar of honey for 35 cents and a five-pound can of the same honey for 75 cents.

Very few of those who attended the honey stands could tell much about either bees or honey. They seemed to think it sufficient to tell prospective customers that it was "good honey" and let it go at that. One man, when asked what kind of honey he had to sell, answered, "Dog-goned if I know. Bought two five-gallon cans of honey from a feller, and he said one was orange and the other was sage, but I can't tell which is which." After a little conversation, he said, "Say, mister, if you know anything 'bout honey, I wish you would tell me what kind this is."

Well, the first can sampled was orange honey, and a pretty good quality of orange honey, too. The other can looked and tasted exactly like the first. As this man's jars were not labeled in any way, he was in a position to supply almost any kind of honey the customer happened to call for.

R. B. McCain, California.

Bees Blamed for Horses' Death

This story comes from Mitchell, Nebraska: A boy was driving a team of horses across the field. Some wild bees attacked the boy and he ran, diving into an irrigation ditch. The bees then set upon the horses and the animals ran, getting enmeshed in a barbed wire fence. The two horses died a short time thereafter and their death is listed as being due to the poison from the sting of the bees.

J. B. Dillon.

ATTENTION—Secretaries and Commercial Beekeepers

I am going to be frank. Bear in mind that I have no axe to grind in making this statement. I have nothing to sell you but an idea that will return dollars for every penny spent, if you will get into the game and stay with the team till we cross the goal line.

If you have been in the game of honey production very long, you have watched the honey market slip from war time prices to car lot sales at 10 cents, then 9, then 8, then 7½, and now—? Depression or no depression, part of the blame for the present condition of the honey market is lack of an adequate, nation-wide effort to popularize honey. I do not refer to display advertising in its various forms, such as costs the leading manufacturer of cereals \$3,500,000 for the year 1930—that is not possible for us. But an educational campaign, such as is now being organized and effected, as far as funds permit, by the American Honey Institute, Indianapolis, Indiana, is not only possible—it is actually in progress, a campaign which is growing so fast that requests for information and assistance are far exceeding the available supply.

In American Honey Institute you have an organization headed by Dr. H. E. Barnard, one of the nation's outstanding authorities on the very problem confronting honey—a man who has been actively associated with national educational campaigns to popularize various foods, whose experiences as a food official cover a period of nearly thirty years, and, most important of all, a man whose official contacts, at Washington and with many manufacturers of foodstuffs, are such as to open the door when nine out of ten would fail. You have but to meet him and hear him to realize his caliber. Dr. Barnard outlines the policy of the Institute, prepares educational articles for both trade journals and the public press, makes contacts with the educational and advertising departments of the leading manufacturers of foods, and has, in several instances, "put over" ideas for advertising honey in connection with baking powder or some other foodstuff at no cost to us.

Assisting Dr. Barnard is Miss Malitta D. Fischer, unquestionably the leading authority on honey menus. Miss Fischer divides her time between honey demonstrations at national conventions of food workers, dieticians, etc., working in her experimental laboratory perfecting new

ways for serving honey, and, lastly, attempting to supply requests for information and assistance, which arrive in constantly increasing volume.

Space does not permit a detailed account of the many accomplishments of American Honey Institute in the brief period of its existence. But every person who has become acquainted with its work agrees that a better opportunity has never been offered us to increase the demand for honey, or, to make the consuming public "Honey conscious."

About 90 per cent of the finances for the Institute have come from manufacturers of bee supplies, honey containers and honey bottlers. Recently demands have increased and funds available have decreased until action is necessary.

Now, Mr. Honey Producer, I am putting the issue squarely up to you. Are you going to dig down and help, or will you let the most promising activity which has yet crossed the beekeeping horizon die a-borning for the want of a little more money? This is an issue which you cannot buck-pass. You can't "let George do it." The answer is either "Yes" or "No." The whole question was threshed out at the last annual meeting of the Michigan Beekeepers' Association in Grand Rapids. It was decided to adopt the policy of subscribing one dollar per ton per year. To date, Michigan beekeepers have subscribed \$603.75, of which \$461.25 has already been paid. If beekeepers throughout the country would do as well, funds would be available to do some real good work.

David Running, after "digging down" for \$70, summed up the whole question as follows: "Beekeepers cannot afford NOT to subscribe one dollar per ton any more than the dairy man can afford NOT to feed his herd." Fifteen Michigan beekeepers subscribed \$465.50. Can the rest of you match this sound business? The present subscribers are giving until it hurts to keep the Institute going. If you can't see one dollar per ton, chip in \$5.00 to show you are with us. Money is the sort of sympathy that is needed right now, and while the response to recent pleas by Chairman Parks and Miss Fischer have been gratifying, the great bulk of commercial beekeepers have been passing the buck.

Yours for action,
R. H. Kelty, Treasurer.

Editorially We Say—Now or Never—Here Is Your Chance to Get Behind Yourself!

Every possible bit of information about the American Honey Institute and its work has been given in our pages and we have featured the special and more noteworthy instances of the far-reaching and cooperative nature of the work. Every beekeeper should feel that this is an unselfish effort to put honey on the map. Dr. Barnard is one of our best informed and best liked food experts, with contacts beyond the possession of our industry but for his thorough interest in honey as a natural food product. Miss Fischer has the experience, the vision and the contacts to support him ably. The entire Institute fits most favorably into the needs of beekeeping.

Those who heard the wonderful broadcast on Friday morning, November 7, by Betty Crocker were probably as thrilled as we were over the great support given by General Mills, Inc., in this single effort. It covered the use of honey in the home thoroughly; referred all inquiries to the American Honey Institute, and gave the housewife many facts about honey which she never knew

before. It covered the United States, Canada and Mexico, over the National network, representing a cost of over \$2,000.00, every cent of which was a donation outright by General Mills through Miss Crocker—an outstanding illustration of the far-reaching effects of the cooperative work of the Institute.

Now is your chance to support this work, which really means supporting yourself. So we say: Get behind yourself! Make a sacrifice which will come back to you like bread on the water. If you can't send money, send your pledge.

A committee composed of Frank Rauchfuss, E. G. Brown and A. G. Woodman, at the last meeting of the American Honey Producers' League, proposed this schedule: That honey producers contribute a dollar per ton of honey produced, or one-half of one per cent of the crop, to the Institute each year, to be paid on or before February 1. Use the coupon below:

COUPON

To Russell H. Kelty, Treasurer, American Honey Institute, Lansing, Michigan:

I hereby enclose _____ or pledge _____ for the American Honey Institute for the year 1930.

In addition to the regular work of the Institute in my behalf, it is understood that I shall receive, on request, from the Institute, the various printed leaflets, folders and mimeographed sheets which are for general distribution.

Name _____ Address _____
(Mail this coupon with your check direct to Russell H. Kelty, Treasurer, American Honey Institute, East Lansing, Michigan.)

Newer, Simpler, and Better Beekeeping

By G. Barratt

I HAVE no intention of advising a larger frame, but just give my personal reasons for using a larger frame—that is the Modified Dadant. In the first place, the champions of the B. S. frame say that, although it is standard, the hive is not, and any number of frames may be used. This is quite true, but in beekeeping on a fairly large scale overhead costs must be carefully considered. In my own case, if I had to keep my bees on B. S. frames and provide adequate accommodation, it would mean an extra cost of about 250 brood boxes, 2500 frames, labor of making up and wiring and about two hundredweights of foundation, also the cost of the majority of hives is prohibitive, so I must have a good, sound, single-walled hive, of such a capacity as to allow my queens full scope. Such a one I have found in the M. D. hive and frame.

Consider the requisites for wintering, for example: a good queen, an abundance of stores, and a sound roof and moderate protection from stormy weather. If these are present, you can cut out all the rest and forget your bees until the spring really opens. All the talk about insulation and packing leaves me cold. That brilliant beekeeper, the late S. H. Smith, had a slogan, "Let the bees tell you," one of the wisest pieces of advice ever given; apply it to every difficulty and problem and your troubles vanish. Applied to this question of insulation, heavy packing, double walls, etc., the bees tell me that they are semi-hibernating animals and, as such, require conditions which induce a comatose condition, dry and cold. My job is to keep my bees cold enough in winter so that they shall not wear themselves out in useless activity and in uselessly consuming food. I have seen scores of swarms and casts hived in one-eighth-inch wood cheese boxes with no other protection but an old sack or so, and these have always come out strong in the spring. Not ideal conditions, I grant you, but enough to make my point. You will remember the arctic weather we had two winters ago, yet it is many years since bees wintered so well and built up so quickly afterwards. Coddling bees, trying to bring little lots through the winter, is a grave mistake. Do not forget that a hardy bee is usually a healthy bee.

And now the question of adequate stores. Last autumn I left one of my apiaries, all on M. D. combs, with a minimum of eighty pounds of honey, some nearer to one hundred pounds. In no circumstances do I remove any stores from the brood chamber. "How very extravagant!"

We take pleasure in reproducing the following extracts from a lecture delivered by Mr. Barratt at the beekeepers' convention held at Monmouth, England, in August. Conditions may be different in England, but Mr. Barratt's remarks certainly apply to this portion of America.

you may say. Let us see how it works out. In the first place I have observed the great essentials of wintering—that is, a young queen, a good queen introduced in August, ensuring the second essential—a good force of young bees, an abundance of stores—please mark this—an abundance, not plenty, and lastly, a sound, dry roof. By doing this I have simplified my beekeeping by cutting out all winter anxiety and practically all spring work. If I applied Smith's slogan in early spring, all I have to do is walk round the apiaries when flights are possible and I shall be told all I need know. If I gently remove a roof and put my ear close to the quilt and give the hive one sharp rap on the side, the bees will at once give me as much information as if I had foolishly opened the hive. If the stock has a fertile queen, they will give just one short, sharp buzz. If they have lost their queen through any cause in the late autumn or winter and have reared a virgin too late to mate, I shall get the buzz longer drawn out, and if they are hopelessly queenless, I shall get a long-drawn-out, dolorous hum, which will continue for an indefinite time.

But to return to this extravagant eighty or one hundred pounds of stores. As I said before, I have cut out all worries about wintering and all spring work, but I have done more than that; when the queen commences to lay, the bees having an abundance of stores and plenty of bees to keep up the temperature, go on slowly and steadily increasing the brood nest, with no setbacks, no retrenchments for fear of food running short, with the result that stocks so treated are ready for supering a fortnight or more before those stocks with no reserves. As soon as the supers are put on, this large force of bees, as anxious as the young queen to extend the brood nest, at once move a lot of honey up into the supers. So you see I have not lost that honey after all. It was there to give them confidence in the future. It cut out all messy spring feeding and gave me hives running over with

bees when I wanted them, at no extra cost and no labor.

Such stocks, in hives large enough to accommodate the queens, will need no excluders, or indeed anything else except the simplest equipment. It has always been a matter of great surprise why drone base foundation was ever made. The only argument I have heard in its favor is that honey is easier to extract than from worker-comb. Well, as one man remarked, his difficulty was to get the honey into the combs; if he got it in he would get it out all right. It is the small brood chamber that causes the difficulty of queens laying in sections, necessitating the use of excluders.

In a normal year I produce about four thousand sections, and I have never had brood in one yet, and never used an excluder under sections in my life. Of course, I always use full sheets of worker base foundation, and each sheet is dead in the middle of the wood, by using three-side split sections. As regards working for extracted honey, the excluder has no place in my work; if the queen wants to go up, up she goes. I know she will go back as the season advances, and every comb she has used will have been strengthened by that use and increased in value. I do not agree with the statement that brood combs are unfit for honey; the bees clean and polish the cells far too well for that. So much for simpler beekeeping, except the simple method of making syrup which I use.

One of the most important things in better beekeeping is the selective breeding of better bees, and here everyone can help himself and his neighbors if he will take a little trouble. See that as far as possible all your brood combs are well made, tightly wired, and free from drone-cells. The advice is given to renew brood combs every three or four years. Personally, I never scrap a comb unless it is imperfect. Age would not cause me to throw out an otherwise good comb. I have seen combs that have been in use for twenty-five years, as black as coal, solid with brood and producing normal bees. Eng.

Honey Ice Cream

Mr. W. S. Fahsholz sends us an advertisement from a Tulsa, Oklahoma, paper which offers ice cream sweetened with honey only. The advertisement mentions the fact that no sugar is used. There is much apparent interest in honey as an ingredient of ice cream, with every prospect of a greatly increased output of this delicacy.

Holding Frames to Wash in Lye Water

By Leroy F. Baxter

I WILL describe a fork device I made for holding frames while washing them in boiling lye water. Last year we cut out and melted up several thousand combs and realized then how important it is that these frames should be thoroughly cleaned and sterilized. The problem was how to do it without too much time and labor.

I finally hit on a fork device which will hold a super of ten frames at a time. I took a piece of 1x4-inch board and fastened a handle to it as shown in the picture. Then I took a piece of 5/16-inch iron rod, bending it so that it will just fit nicely inside the frames. The ends were bent slightly in and down so as to slip in without catching, and yet bent up enough to hold the frames snugly against the 1x4 board.

In the end of the board I bored a 3/16-inch hole and into this I put a 16-penny spike to hold the frames on the fork.

We then made a frame of inch material of the right size to fit inside a ten-frame hive body, and by placing a super of frames over this the frames are raised high enough so the fork will slide in and pick them up.

The frames can now be immersed in a tank of boiling lye water and drawn back and forth a few times to force the water over every part of them. In less than a minute every particle of wax and honey and every speck of propolis have disappeared and the frames come out nice and clean.

They are then lifted out of the solution and returned to the super, the spike pulled, the fork withdrawn and the ten frames left in place. The whole process is completed without once touching the frames with the hands, thus avoiding burning or scalding. Two of us have washed better than sixty supers (600 frames) in an hour and did a good job of it.

The tank in which we wash them is 20 1/2 x 31 inches and 15 inches high. It is heated by a steam coil in the bottom. We used thirty gallons of water and two cans of lye, which will clean about seventy-five supers of frames before it needs renewing.

It is not necessary to rinse the frames in water. We were a little afraid that the surplus lye water, if not rinsed off clean, might be harmful to the bees, but our experience has shown that it did not harm them in the least. The fact is the bees seem to prefer these frames to new ones. Of course, each forkful of frames

was allowed to drain off a short time before they were returned to the super.

The tank is kept constantly boiling by allowing just enough steam to enter. The frames are kept immersed and constantly agitated back and forth in the solution. It is wonderful how nice and clean they come out,



The fork, fastened to board with hole for peg. Form at right is for pushing up frames in super to insert fork.

and it is a pleasure to work with them after this.

It is fine, too, for washing chunk honey frames as well as brood frames.



Home-made wax press disconnected and in position to drain. Screws give more than ten tons pressure on the two-inch plank cover. Heated by steam coil in bottom.

It surely removes every disease germ. It is also handy for washing queen excluders. The best part of it all is that it takes so little time to do a disagreeable job.

This tank is also used for a number of other purposes: for liquefying honey in 60-pound cans, for melting wax and combs, and for a wax press. The framework, as shown, is made of 2x4's which are set in an inverted V shape on each side with two 2x6 crossmembers bolted on underneath to support the press.

The crossmember on top is two 2x4's bolted together and reinforced with a piece of 4-inch gas pipe tied at each end with strap-iron bolted to the upper ends of the four legs. The top for the press is made of 2-inch plank with a 4x6 piece on top to set the jackscrews on.

At one corner of the tank is a 3/4-inch globe valve for draining. It is heated at the bottom with a steam coil of 3/4-inch pipe. A union in the steam line to the boiler makes it easy to disconnect for tilting over to drain from the lower corner.

About two hundred brood combs can be melted and pressed out at a time without exerting too much pressure on the sides of the tank. The tank itself is made of 26-gauge galvanized iron reinforced with 1x10 board all around the sides.

When melting wax I place a burlap blanket, made by sewing together three sacks, into the tank first. When the batch is melted up and drained of all it will drain without pressing, the ends and sides of the burlap are folded over and the plank cover set on top. Two 1 1/4-inch jackscrews are put in place and given all that the levers will stand. With this home-made affair I get an average of nearly two and three-quarter pounds of wax to a ten-frame super.

This melter is also mighty handy for making sugar syrup for feed. We dump in two 100-pound bags of sugar and enough water to make thirty-five gallons of syrup, turn on a full head of steam, and the deed is done in a few minutes. Certainly a much less trying strain on the family ties than when we used to muss around the kitchen stove, trying to make a batch of syrup.

This tank and little steam boiler are simply indispensable in the honey house, and I now wonder how I ever got along without them. With 75 pounds of steam we have no trouble keeping our two steam knives hot and the capping melter always steaming hot.

Nebraska.



Fork under frames and peg in place.
Frames are returned to super in same manner after washing.

Behavior of a Colony of Bees When Moved

By Jes Dalton

The beekeeper who has not kept a colony on scales has missed some of the pleasure of beekeeping. For the past season I have kept colonies on scales, but recently, having to move my headquarters to town, I could not establish my scale colony. Much of the fall honeyflow slipped by with no colony on scales.

Finally, getting everything fixed up, I selected a good, strong, two-story colony with bees working in both stories, young queen and plenty of honey. It was somewhat cool when I set this on the scales, and it weighed exactly 112 pounds. I had to move this between a quarter and a half mile—perhaps a third of a mile. I crated it in the day time and moved it at night.

The first night it lost half a pound, which I judged to be shrinkage from fresh nectar. Then it turned cold; the mercury on the thermometer kept on the scale beam went down to 45 one night.

Every day the colony also lost a half pound in weight, but during the coolest period ceased to lose at night, losing only during the day time. In the forenoon, between ten and eleven, sometimes it would lose two pounds—field bees taking flight, I judged from past experiences, but it would not regain in weight.

This went on for about five days, and during the last two days the mercury registered 65 and 70, and today at noon 74. An acre of goldenrod, asters and blue vervain were covered with bees and a strong odor in the yards. Tonight, for the first time, the scale colony came to a balance

towards evening and showed a half pound gain at dark.

The conclusion one will gradually come to is that the bees flew out in the fields and, from the familiar markings, flew back to the old locations in large enough numbers to affect very seriously any surplus

storing, even when the colony was moved over a half mile and cool weather shut them in for a short period. This shows conclusively how easy it is to upset the storage ability of a colony or an apiary by moving them during a flow. The colony was crated, closed and moved with extreme care, hardly crushing a bee, and a spell of cool weather made them cluster tight for one night and fly very slowly for a day.

Louisiana.

Death of Wisconsin Beekeeper

We regret to advise our readers of the death of Mr. L. T. Bishop, of Monroe, Wisconsin, which occurred on September 16.

Mr. Bishop was one of Wisconsin's oldest beekeepers and well known through the entire Wisconsin fraternity as well as among beekeepers in other states.

We had been in yearly correspondence with Mr. Bishop over a series of many years and had learned to appreciate him. We are sure that we can join with our subscribers in condolences to the family.

His apiary at present will be under the charge of Mr. Lester H. Bishop, a son, who, however, is engaged in another line and advises that he will seek to sell his father's apiary.

A Seattle Market Display



Honey is conspicuously displayed in many of the attractively arranged stands in Seattle's new Security Market. The Sterling stall herewith shown specializes in high quality health food products. Honey is

handled in the comb, in glass and tin containers, and in bulk. Two of the four large glass tanks shown at the upper center of the photo contain honey which is drawn off into containers furnished by customers. Fireweed and clover honeys are featured.

Distinguishing the Foulbroods by Their Odors

By C. E. Burnside, Assistant Apiculturist, Bureau of Entomology, U. S. Department of Agriculture

THE symptoms of the brood remains of American and European foulbrood depend largely upon the age of the brood when death occurs. When brood dies of either of the foulbroods at the age when death usually is caused by the other, the symptoms overlap and diagnosis in the apiary is difficult. It is not important that a distinction be made in advanced cases of American foulbrood when some of the brood remains resemble European foulbrood, since the treatment for the former disease will also eliminate the latter. It is extremely important, however, that a distinction be made between American foulbrood and the remains of European foulbrood that resemble it.

In about 25 per cent (a larger proportion than usual) of the combs infected with European foulbrood that were received at the Bee Culture Laboratory during 1930, part of the brood remains could not be distinguished readily by the symptoms from the remains of American foulbrood. The dead larvæ were extended in the cells, the ropiness was equal to that of typical American foulbrood, and the color and appearance were similar. In some of these combs brood remains typical of European foulbrood were also present, but all of the remains in other combs resembled American foulbrood (The samples received at this office probably do not represent the true state of conditions, since many of them were sent because the symptoms were confusing.)

Beekeepers and inspectors seem to have experienced more than the usual difficulty this year in the diagnosis of European foulbrood in the apiary. Owing to confusing symptoms it was either difficult to eliminate the possibility of mixed infection or to determine which disease was present, and microscopic examination of the brood remains was often necessary for diagnosis.

During July the writer inspected a number of apiaries infected with European foulbrood in Michigan and in Ontario, Canada, where the same confusing symptoms existed that were observed in samples of European foulbrood received at the Bee Culture Laboratory. In many of the infected colonies the progress of the disease had been checked. The typical brood remains had been removed by the bees, leaving only the remains of brood that had died in sealed cells and had developed symptoms that are usually accredited to American foulbrood. The beekeepers claimed to have observed brood remains that were typical of European foulbrood in some of these colonies earlier in

The editor wishes to give particular emphasis to the following article, received from the bee culture branch of the Bureau of Entomology at Washington, because of the protracted experience of our apiculturists there. They get samples from all over the country and are better able than any of us to diagnose bee diseases. So the reader is asked to read this article carefully.

the season. The development of this condition is doubtless due to the early removal by the bees of the brood that dies in open cells. The larvæ that die in sealed cells dry more slowly and are protected from removal by the cappings. During decay they become viscid and can not be removed by the bees until nearly dry, even when the cell cappings are removed.

During the summer of 1929 the writer realized the need for some test that can be applied in the apiary, to distinguish between the foulbroods when they can not be distinguished by the gross symptoms. Observations were made on the solubility in water of the brood remains of American and European foulbrood. This test seemed to be distinctive at times for the typical brood remains, but it was soon found that it is not always dependable. A study of the odor of the brood remains, in the various stages of decay, gave more encouraging results. Contrary to popular belief in this country, the odor of brood dead of European foulbrood was found to compare favorably in intensity with the odor of the same quantity of brood dead of American foulbrood. The odor was found to be distinctly different in the later stages of decay, however, and this fact seems to offer a means which may assist in the diagnosis of confusing cases in the apiary.

In the past, observations on the odor of the brood remains of American and European foulbrood have usually been made on the infected combs. The odor of American foulbrood in advanced cases, which has been likened to "the odor of heated glue," is recognized by everyone who is familiar with this disease. On the other hand, the brood remains of European foulbrood are commonly supposed to be without odor, although Phillips (1) (1918, *The Control of European Foulbrood*; *Farmers' Bulletin* 975, U. S. Department of Agriculture) reports that a sour odor which he likens to "yeast fermentation" is sometimes present.

Owing to the difficulty of accurately describing odors, very few such attempts will be made in this paper. The odors have never been completely classified, consequently there are no standards for them such as have been developed for the colors. Odors can be compared with other familiar odors, but this method is unsatisfactory, since accuracy can not be obtained. Odors are readily learned and even slight differences can be detected. The fruits, farm crops, or chemicals, for example, can often be identified by their odors alone. It is not expected that others will agree entirely with the comparison made in this paper for the odors of the foulbroods, since the opinions of individuals differ as to what constitutes the best comparison.

In these observations the odors of the foulbrood-infected combs as well as of single dead larvæ were studied. In European foulbrood as well as in American foulbrood, when abundant brood remains were present, the odor was found to be sufficiently intense in the combs to be detected readily. When only a few scattered dead larvæ were present no odor could be detected in the combs. In European foulbrood an odor which seems to be as typical of this disease as is the "glue pot" odor of American foulbrood was observed to be constantly present in combs that contained many larvæ in the early stages of decay. The odors of the foulbroods are of particular importance when a small quantity of brood remains is present, or when mixed infection is suspected. In advanced stages of disease when the odor of foulbrood coming from the entire comb can be detected readily the matter of odor is of less importance, since the other symptoms are sufficient for diagnosis.

The odors of single larvæ dead of foulbrood were studied, as has been done by Burri (1906. *Bakteriologische Untersuchungen über die Faulbrut und Sauerbrut der Bienen*, pp. 39, pl. 1), by holding the brood remains on a toothpick or tweezers directly at the entrance of the nostril and breathing deeply for five to twenty seconds, or until the odor was detected. The best results were obtained when the atmosphere was quiet and no odors other than those of the brood remains were present. It was found necessary to hold the toothpick or tweezer at the extreme opposite end from the brood remains, since odors on the hands, of propolis, smoke, etc., may completely mask the odors of foulbrood.

In the early stages of decay in European foulbrood, before a brown color has developed, a distinct odor can usually be detected in a single

dead larva. The odor seems to be typical of the disease and is the same as that observed in heavily infected combs. When drying is not too rapid, an odor which seems to be specific for this disease can be detected when the brood remains have assumed a brown color. At times this odor can be detected before a distinct brown color has developed, but it is more intense in the later stages of decay. When the brood remains have become dark brown and decidedly ropy, a condition that resembles typical American foulbrood, the odor is most intense and the disease can usually be identified by the odor alone. At this stage of decay the odor of European foulbrood was said to be putrid by two persons who were asked to describe it. As drying continues the "putrid" odor decreases, but an odor which seems to be part of it, or at least associated with it, remains in the partially dried scales. This odor seems to be specific for European foulbrood, since no odor comparable with it was detected in brood dead of other causes.

The penetrating effect of this odor in the ropy or partially dried remains of European foulbrood, and its momentary lingering after the brood remains have been removed from close to the nose, remind the writer of very dilute acetic acid, but others who were asked to describe it failed to notice a similarity.

During the early stages of decay in American foulbrood no odor can be detected as a rule, although at times an odor is present which resembles that present in the early stages of decay in European foulbrood. The odor is usually faint and can not be detected in the combs. As decay continues in American foulbrood and the remains become light brown and ropy a faint and usually non-offensive odor develops. The odors at this stage vary considerably and, while usually distinct, can scarcely be detected in some of the brood remains. In the opinion of the writer the odor resembles at times that of a crushed grain of corn or bean. In other of the remains it may be slightly putrid or sour. By the time the remains have become deep brown and drying is evident, the "glue-pot" odor can be detected. When the brood remains have become dark brown, and more or less dry, the "glue-pot" odor is most intense. This odor decreases in intensity or may disappear in the completely dried remains, but can be restored by macerating a scale in a few drops of water.

The odors of the brood remains of American and European foulbrood seem to offer a valuable additional test in the apiary when, owing to scarcity of brood remains or confusing symptoms, diagnosis can not be made from the usual observations. In order to use the odor test success-

fully in diagnosis, the sense of smell must be normally acute and it is necessary first to familiarize one's self thoroughly with the odors of the foulbroods by studying the odors of the brood remains in known cases of American and European foulbrood. After the odors have been learned, brood remains that ordinarily would require microscopic examination can usually be diagnosed in the apiary and samples for laboratory diagnosis can be chosen to better advantage.

It may be well to emphasize the fact that the usual considerations are sufficient to distinguish the foulbroods in most cases. In special cases of European foulbrood, however, when mixed infection with American foulbrood is suspected, or when a colony infected with European foulbrood is inspected after the typical brood remains have been removed, the odor test is an aid in the diagnosis.

Raising Bigger Bees

According to the work of Baudou, an investigator at the experimental apiary at Tervueren-lez-Bruxelles, Belgium, there are great advantages to be obtained by using foundation with larger cell bases than normal. He began in the nineties with foundation having about fifty-nine cells per square inch, and now uses a pattern having forty-five cells in the same area. He states that there is an increase in tongue length of about one-sixteenth inch for every ten cells less to the square inch (reduced from his figures in metric units). It appears that his crops have always been larger than his neighbors'. A larger hive and wider spacing of combs are naturally desirable to insure adequate room for the queen to lay and comfortable space for the big bees (about 11.4 per cent larger than those raised in the 59-cell combs) to go about their business in the hive. He intends shortly to publish figures for the increase in size of honeysac with the large cell foundation. His results will be awaited with interest.

For experimental purposes, Baudou made larger cells by laying a sheet of foundation between a thick and thin sheet of rubber and rolling the three (warmed) around the tongs in which they were held. These appear to have elongated jaws which, when closed, form a cylinder. The foundation is then taken out, turned at right angles to its former position between the rubber sheets, and the process repeated.

A. D. B.

Advertises Keeping Qualities

"Honey will keep for years in a warm place. Stock up the cupboard for waffles and cakes," advertised the Tebbets & Garland Company (Stop and Shop), the biggest food store in Chicago, when it featured honey at the lead of its newspaper advertising

during "Honey Week," the middle of May. This store continues to quote prices on the unit of three jars instead of making a smaller sale of a single jar.

F. H. Madison.

Good Year in Nebraska

Some have meat and canna eat,
And some could eat that want it;
But we have meat and we can eat
And say, the Lord be thanket.

Robert Burns.

This can be truthfully said of our great state of Nebraska, for her harvest was bountiful in every way and much of our foodstuff will be shipped into other states less fortunate.

With the beekeepers of Nebraska all is well, as the late rains brought an abundant honeyflow from the sweet clover, which is after all the only dependable honey plant in the state.

In the Government report on honey conditions for Kansas and Nebraska we find that, although it has been very hot in this section, showers have been more frequent than in most of the other states in the area and sweet clover and alfalfa still furnish some honey. The hot weather curtailed the nectar flow, which from early indications seemed likely to be one of the best on record.

From South Dakota and Iowa the reports say that the honeyflow was about over August 1 because of the hot, dry weather. The quality of the honey is quite good, however, but not up to normal in quantity. From the Red River Valley of North Dakota, where sweet clover plants are ample, bees will probably make an average crop. In Mississippi extremely hot, dry weather has cut short the crop, and prospects for the heartsease flow is only 25 per cent of normal. In California, known as one of our great honey states, we find that, although the first part of August was cool, hot weather earlier put a stop to the flow of buckwheat and lessened bee activities generally.

On the desert slope of San Diego county bees have done better than in most places. The white sage is producing only in the higher places and some honey is coming in from sweet clover, but at that the yield is not so very good in California. Then in Texas we find the honeyflow continues to be very spotted. On September 1 most of the beekeepers had taken little or nothing and some are still feeding their bees, a condition which is not as it should be.

So we find in checking over the report carefully that Nebraska is among the best and her honey cannot be excelled, namely, sweet clover honey. In conclusion, eat honey and grow sweeter with age.

V. W. Binderup,
President Nebraska Honey Producers' Association, Nebraska.



A Road to Paradise

By Robert B. McCain

This is the latest self-inflicted picture of the author, of Lompoc, California. McCain is one of our western representatives and it is to him that the news from California, particularly, can be attributed. The present article is one of the interesting yarns he digs up.

proved that he knows the road, because he found it and followed it to the end.

Ordinarily, when a traveler comes to a rural mailbox it is safe to assume that he is somewhere in the neighborhood of the home of the owner of that mailbox; but Mr. Yarnell's mailbox proved to be merely a point on the county road to mark the place where things began to get interesting—and dangerous. To say that the road to Paradise Mountain is very narrow and steep would be to state the case in the mildest language possible, and to use the word crooked in this connection does not convey any idea whatever of the contortions of that road. It is so crooked that it cannot lie still, but keeps running around on the mountainside and heading into solid stone walls from which there does not seem to be any possible way of escape.

That man Whidden is certainly a marvel at driving a mountain road. The way he negotiated those impossible points was to step on the gas and drive his tin Lizzie bang into the stone barriers. It seemed like certain destruction, but at the last fatal moment an opening, just large enough for the little Ford to squeeze through, appeared, and one was permitted to resume his normal breath-

ing. The scenery on every side was beautiful. Few places in the world offer more wonderful mountain scenery than San Diego County, but the adventurous ones who attempt to travel these roads should be warned to hold fast to their seat while admiring the scenery. One vivid impression of this particular trip was received on the head as the result of trying to dive through the top of the automobile. But that impression soon passed.

We found Mr. Yarnell at home in his commodious mountain cabin. Near by is his apiary, part of which is shown in the accompanying picture. Mr. Whidden is seen in the picture, ready for action. In addition to bees, there is a poultry yard and a wonderful field of sweet corn. Over a half-inch of rain had fallen a few days before this visit and all nature had responded gloriously to the drenching. The white sage we were seeking was not hard to find, and a view of it was well worth the trip. Mr. Yarnell is seen in the picture standing in a clump of the plants that are unusual in height.

John E. Yarnell was formerly a linotype operator in a newspaper office. Although he has lived alone in this Eve-less Eden for over seven years, he is not of the hermit type.

IT is worth the effort to climb a high mountain to see white sage in bloom in the middle of the month of August, when sage almost everywhere else is dried up and forgotten. And a job of climbing is just what had to be done in order to see such a sight. It was necessary to go to Paradise to find it. Not to Paradise of the other world, but to Paradise Mountain, in San Diego County, California. But there were times in this upward journey when the road to the elysian fields seemed very close at hand.

Rumor had it that unusually late and abundant rains had kept white sage in bloom on Paradise Mountain and that a little nectar was still flowing as late as the middle of August. The only thing to do about a rumor of that kind is to run it down, except in this instance it proved to be a case of running up.

Most of us know from experience how hard it is to tell another person how to find a certain road and follow it to a certain place. Well, there are very few people in the world who know the road to the top of Paradise Mountain; and there is not a single person in the world who could tell another how to find and follow that road. Of the few who know this road, there are two who know it best. One is John E. Yarnell, who lives on Paradise Mountain and has to know the road or he couldn't get back home when he goes away; and the other person is A. K. Whidden, who



Part of Yarnell's apiary on Paradise Mountain, San Diego County, California. A. K. Whidden is the decorative element in this view.



White sage of unusual height. John E. Yarnell is the man in the picture.

We found him genial, pleasant and hospitable. His chief anxiety at the time of the visit was the fear that someone would invade his limited territory and overstock it with bees. But, remembering that crooked, rocky road to Paradise, it seems more than likely that his fears are groundless.

"Frozen" Queen Revives

By L. C. Nieb

While going over my apiary last spring I came across a colony which had starved to death. The dead bees I brushed on the grass, and among them I found the queen. I picked her up and laid her on a shelf in the house, for I intended to give her to a biology instructor at the high school in Niles, as he had informed me that bees were studied in his classes and that he wanted specimens.

I had other work to do, and upon coming back a few hours later with a small vial to put her in I was greatly surprised to find signs of life in what I had supposed was a dead bee. I placed her on a table in the sunlight, which served to revive her quickly. At first only the tips of her legs moved jerkily. At the same time her antennae moved slowly back and forth. Then movement was noticed in the rest of her body and soon she was as lively as an ordinary queen in the summer time. I was puzzled to know what to do with her, so I went out and brushed up all of her bees that I could from the ground into a paper and spread them on the table in the sunlight.

Soon many were crawling about on the paper and nearly all the rest were showing signs of life. I secured a queen-mating nucleus from the bee house and placed a comb of honey in it. I put the queen in this little hive and dropped the bees in one by one until they began to revive in such great numbers that I was obliged to dump all of them in at once. I placed the hive near a stove and left them

over night. When I looked at them next morning I found a nice little cluster on the comb. I placed the hive outdoors, where they did well for a few days. Later they were robbed out and most of them were killed.

"The Honey-Bee," paragraph 151, states that "refrigerated queens, such as this one, have been brought to life by warmth and that they laid eggs, but that these eggs produced only drones, as the spermatozoids had been rendered inoperative by the severe cold. I was quite sorry that the queen lost her life when the colony was robbed out, for I wanted to see if she would produce drones like the rest.

Wineries Use Honey

Following several months of experimenting, the news has been made public that the Canadian native wine manufacturers will substitute honey for sugar in the manufacture of their product.

Announcement has been made by the attorney-general's department that the liquor control act will be amended at the next session of the Legislature to allow the substitution. The use of honey will mean greater expense to the manufacturer, increasing the cost of wine to the amount of about 18 cents per gallon. Half of this cost will be taken care of by the Government, the balance by the manufacturer.

It is pointed out that in the manufacture of native wine with the use of sugar a certain amount of acid formation takes place which is detrimental to the health of the consumer. In the use of honey no acid is formed.

Colonel W. H. Price, attorney-general, states that in France and Greece and other wine-producing countries the substitution of honey for sugar has produced a very palatable and high standard wine. It is expected that 1,500,000 pounds of honey, principally of the amber grade, will be used yearly. This should result in a partial solution at least of the problem of the disposal of this grade of honey.

Allan T. Brown,
Editor, *The Beekeeper*,
Peterboro, Ont.

How They Do Things in Australia



John H. Rosser, our news gatherer in Australia, sends us this view of his extracting building, showing that commercial beekeeping is on our same familiar magnitude in that far-away land. On the truck is the bulk tank into which the honey is pumped at the outyards. The truck stands on a ramp at a higher level and honey runs through pipe into settling tanks in the sheds. The latter are well lighted, by construction shown, for handling the honey.

Doings in the Northwest

By N. N. Dodge

Fireweed Yields Nectar Heavily

"Tatters," the energetic pet puppy of Mr. M. A. Williams, of Portland, Oregon, is not enthusiastic about good fireweed locations during the honeyflow. "Tatters" remained with Mr. Williams at his "bee camp" at Beaver Falls, Oregon, this summer, and spent considerable time investigating scents and trails in the woods and burned-over land near the camp site and bee yard. So heavy was the nectar secretion that "Tatters" invariably returned to the camp well soaked with the sticky nectar, shaken from the fireweed blossoms. Mr. Williams admitted that this condition was welcomed as the sign of a heavy honeyflow, but that "Tatters" insisted on resting on the camp bed. The only solution was to give "Tatters" a thorough bath after each expedition into the forest of fireweed. The numerous baths explain "Tatters'" lack of enthusiasm in honeyflows.

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Giesentanner Passes On

Washington beekeepers are sad to learn of the death, on September 30, of Mr. W. H. Giesentanner, of Seattle. Mr. Giesentanner kept bees, first near Walla Walla, Washington, and later near Monroe, west of the Cascades. He was an enthusiastic member of the King County Beekeepers' Association and was especially interested in raising the standards of beekeeping practice and honey packing. His wife carried on the work of the bee yard after ill-health made it impossible for Mr. Giesentanner to continue active work with the bees. Beekeepers sympathize with Mrs. Giesentanner in the loss of a man who, regardless of his own suffering, was always looking at the bright side of life, working for the betterment of the beekeeping profession and encouraging others to strive for cooperation and ceaseless activity for the improvement of beekeeping.

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Coach "Baggy" Gone

Mr. Enoch Bagshaw, better known as "Baggy," head coach of the University of Washington football teams for many years, whose death on October 3 was mourned by followers of football throughout the United States, was a beekeeper in a small way. He kept half a dozen colonies of bees in his back yard in Seattle and enjoyed working with them and watching their activities during his hours at home. Whether "Baggy" received inspiration for originating trick shifts and power plays for the gridiron by watching the cooperation and organization displayed by the workers of

the hive will, perhaps, never be known.

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Kendle Suffers Fire Loss

Loss of property estimated at a value of one thousand dollars was suffered by Mr. Charles Kendle, honey producer of Montrose, Colorado, when his honey extracting house and equipment were damaged by fire September 12.

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Carl Wurth Takes a Flier

During September, Mr. Carl Wurth, well known honey producer and county bee inspector of Riverside, California, made an extended trip through California, Oregon, Idaho, and Washington. During his trip he visited the modern honey bottling plant of Packing and Marketing, Inc., at Sacramento, California, and the plant of the Pacific Slope Honey Company in Seattle. He was much interested in talking with beekeepers in the Boise Valley of Idaho regarding beekeeping methods and yields in that district, which is considered one of the finest honey-producing regions in the Northwest. Mr. Wurth engaged in a bear hunting trip while in Idaho, but failed to show any reward for his efforts other than brush scratches on his face, hands and arms. His trip ended at the home of his father, Mr. Daniel Wurth, pioneer Washington beekeeper, at Wapato, Washington.

Among the most interesting of his many beekeeping activities, says Mr. Carl Wurth, is the collecting of various samples of honey from the different parts of the country which he visits. He has already accumulated a great many samples, which he has on display at his home. He states that his own county is a leader, perhaps in the whole United States, as a producer, on a commercial scale, of a great number of varieties of honey. Six major honey sources, among them eucalyptus, sage, orange, mesquite and wild buckwheat, each produce at least four carloads of honey within the county, and there are numerous other sources, including alfalfa, which yields surplus, but not in sufficient quantities to be classed as commercial by Mr. Wurth.

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Washington Feud Ends

On the night of August 15 there terminated an unpleasant beekeeping feud between two honey producers of the Yakima Valley in Washington. Upon two occasions during the summer, Mr. "Doc" Shader found more than a hundred of his hives capsized, with the bees in an uproar, many of them confused and drifted to other colonies. He finally enlisted the aid of law officers, and on the August

evening discovered Mr. H. N. Paul pouring a powerful insecticide over the frames of several colonies. Paul was arrested. Settlement was made by Mr. Paul on an appraisal of damage made by C. W. Higgins, bee inspector of Yakima County, assisted by Inspector Swain of Benton County and Mr. Daniel Wurth of Wapato.

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Chile Studies Beekeeping Here

The Republic of Chile, through its Department of Agriculture, is endeavoring to determine the factors upon which are based the United States standards of honey grading. This effort is being made in order to place Chilean beekeeping on a modern level so that its honey and beeswax may compare favorably with that produced in this country. Mr. Luis E. Nagel, consul of the Chilean Republic to the city of Seattle, has been making investigations among Washington beekeepers in an effort to assist his government in its progressive work. Mr. Nagel reports that the United States Department of Agriculture officials and Northwest bee men whom he has gone to for assistance have been very helpful to him in his work.

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Carnation Company Features Honey Ice Cream

During the week of September 29 to October 5, the ice cream department of the Carnation Dairy Products Company featured as its leader honey ice cream. Large display advertisements appeared in Seattle newspapers in which the word "honey" was prominent. The biblical reference to the combination of milk and honey as representing an ideal was alluded to in the advertisement to point out the desirability of using honey in sweetening ice cream. Fresh fruit was the third component of the delicious dish.

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France Demands Inspection Certificate

Officials of the Mountain States Honey Producers' Association report that a shipment of honey made to France has been held up by French authorities pending the receipt by the French of inspection certificates showing that the honey was produced by bees which were free from disease. The shippers are puzzled by this request for inspection certificates, being ignorant of any French regulation relative to such inspection. The big intermountain association has made numerous shipments to France in the past, but has not heretofore been required to produce inspection certificates.

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Land O' Lakes Broadcast Going Well

According to Mr. O. A. Lende, who has charge of the advertising program sponsored by "Land O' Lakes Brand" Honey, packed in Minneapolis and distributed throughout the Minneapo-

lis-St. Paul area, the radio broadcasts which he has been conducting will be carried on indefinitely. These talks have been "on the air" every Friday and Saturday mornings over Station KSTP, Minneapolis, since early summer, 1930. Land O' Lakes Honey programs have met with popular favor largely because they are unusual and because they point out the value of worthy public enterprises, the good being done by social organizations, and the improvements which have been accomplished by public officials. Mr. Lende's talks are straightforward, sincere, and convincing, and have built up a very friendly feeling among his listeners toward Land O' Lakes Honey.

A Hard Year Brings Thieves

Thieves have been at work among Pacific Northwest beekeepers' possessions. Julian Joubert, of Enumclaw, Washington, surprised a bear at work among his beehives. During October he caught two of the marauders in steel traps. While at supper one evening, Joubert's honey house was entered and nine sixty-pound cans of honey removed. Automobile tracks at the honey house door and a loaded shotgun shell on the steps indicated that the thieves were not of the four-footed variety.

Roy Cox, youthful beekeeper of Elma, Washington, reports bears and skunks as habitual pests about the yards of himself and his father, W. L. Cox, in the wilds of the Wynooche Valley of Grays Harbor County. Several skunks have been captured in traps. According to Roy, the odor which clings about the yards does not act as a repellant to the bears, although it may have some effect upon any human honey thieves who might run across the yards.

Mountain States Board Meeting

The Board of Directors of the Mountain States Honey Producers' Association met in Boise, Idaho, on October 23, 24 and 25 to discuss association problems and plans for the future. According to Mr. Charles Brittain, vice-president and director from Washington, discussion centered chiefly around problems of comb honey producers. The use of the cellophane wrapper has increased, to some extent, the use of comb honey, but has caused unwrapped honey to become very difficult to sell because of the preference displayed for the wrapped sections. Because of the very low offers made by German buyers, due to the high German tariff, the association will increase its efforts to dispose of its pools within the United States. Mr. A. W. McKay, of the United States Bureau of Agricultural Economics, attended the meeting and offered numerous suggestions. Mr. McKay has had many years of experience in connection

with cooperatives organized for marketing agricultural products.

National Honey Week Goes Over in Washington

Efforts to "tie in" with National Honey Week, sponsored by the American Honey Institute, resulted in numerous window displays, newspaper items, and mention of honey and Honey Week over the radio in Seattle, Washington.

Right or Wrong

Editor: In your November 2 issue it is stated that honeybees are not native to America. While working bees on shares for J. J. Wilder, of Waycross, Georgia (said to be the largest single beekeeper in the world), I read several articles on this subject in 1923. The conclusion drawn was that there were native bees a little smaller and much blacker than our present black, or German, bees. Mr. Wilder states that they are still quite plentiful in the big cypress section of Florida.

E. E. Corbett, Florida.

"Use Frankness" Is Still My Opinion

The opinion expressed in the article on page 485 in regard to frankness in dealing with the public is based on personal experience and observation extending over a period of almost fifty years' dealing with the public. Personal experience includes about eight years in the grocery and perishable food products, including all kinds of dairy and poultry products and fresh meats business, in the states of Virginia and Indiana. In regard to milk, this personal experience was gained during five years owning and operating a raw milk dairy near to one of the largest centers of population on the Pacific Coast. The dairy herd consisted of seventy-five pure-bred animals, and the raw milk was delivered in the owner's trucks directly to the consumers. At no time during this five years of personal contact with the consumer did public discussion of bacterial diseases have an appreciable effect on the demand for raw milk. At no time during the eight years of handling other food products was the demand for these products affected in the least by public discussion of disease.

As to observation, the writer receives and reads, regularly, six bee journals, six farm journals, eighteen weekly and monthly magazines, and one conservative and reliable metropolitan daily paper. But after all is said, a personal opinion is valuable only in so far as it is based on authentic, provable facts; and a good many of our opinions are built on pretty narrow foundations.

Fluctuations in the demand for food products are caused by economic laws that are hard to understand. The present situation in America is proof of that statement. Even the experts are not agreed as to the forces that operate the law of supply and demand. Surely no one would claim that the frank discussion of bacterial diseases caused the present slump in the demand for all kinds of food products.

R. B. McCain.

Opportunity During an Off Season

Through the entire clover region, this has been an off season because of the extremely dry conditions. Clover simply gave up the ghost and bees drifted along, in many cases without the need for supers. In spots there has been a fair crop where sweet clover was established and promise of fall was good in places, but utterly lacking in many others.

During a season of this sort there is always a tendency to lay down on the job. This is a mistake, as there is never a better time to get colonies in good shape for the flow which is to come. It is more important, in the off season, to see that colonies are requeened, wherever it is possible to do so, than it is in a year when the crop is good. Unless the upkeep of the colony is vigorously maintained during the poorest year, the beekeeper often finds himself facing a crop at another time with the bucket upside down.

The off season is also a good one in which to renew combs, to tune up the equipment and see that so many of the odd jobs which have been delayed from year to year are taken care of. In other words, it is a good time to bring the entire beekeeping outfit up to par, and the beekeeper who does it will find himself with full buckets when the flow materializes during the years to come.

G. H. Cale.

Pool Organized by Honey Producers

One hundred and fifty tons of honey has been set as the production goal for this year by Florida beekeepers, who have formed a cooperative marketing association.

In addition to providing better marketing facilities for the honey crop, efforts are being directed toward improvement of the product.

Tupelo and gallberry honey are almost the only kinds produced in the state that contain enough levulose sugar to prevent granulation. It is believed that by mixing these varieties with the orange and other honeys granulation may be prevented.

J. B. D.

Effects of Cyanide Gas When Used to Kill Bees

SOMETIMES inquiries are received about the use of hydrocyanic acid gas compound in killing bees. This gas has been used for a long time as an effective killing agent for various purposes, but has always been dangerous to use until it was found possible to make it up so that the release of the deadly gas was slow enough to make the material relatively safe.

Two particular compounds are now on the market—Cyanogas and Calcyanide. The product is a brownish or grayish powder that comes in tightly sealed cans. A little of it on the end of a hive tool is enough to kill the strongest colony of bees in a very short time. Inspectors have used it in several states, but its use has not been general among beekeepers.

The danger in the use of this gas in the older methods of fumigation brings the natural question as to whether the newer products are safe.

Let us quote from an instruction sheet issued by the Department of Entomology, at the Manitoba Agricultural College, at Winnipeg, to inspectors and others:

"Cyanogas (or Calcyanide), calcium cyanide, is a chemical which, upon exposure to the atmosphere, liberates hydrocyanic acid gas, one of the most deadly gases known. Liberation of the gas is due to the absorption of atmospheric moisture by the calcium cyanide. It is liberated rapidly at all summer temperatures when the relative humidity is 35 per cent or higher. Below this it comes off more slowly. The rapidity with which the gas is evolved bears a direct relationship to the maximum surface exposed. This means that the finely grained forms, spread in thin layers, are best for quick killing.

The old way of killing diseased colonies with the use of sulphur or formaldehyde is rapidly giving place to the newer calcium cyanide. It is now used in a number of Canadian provinces and many states, not only for killing diseased colonies, but for killing colonies of bees at the end of the season.

An ordinary double sheet of newspaper is folded about three times and a heaping tablespoonful of the calcium cyanide is spread out thinly on the newspaper. This paper is pushed into the front entrance of the colony under the brood frames close up to the entrance and the entrance closed with a piece of wood for about two minutes. Then remove the wood so that any bees flying outside will be overcome also. All bees will be dead in less than half an hour. Honey is not affected in any way by this treatment.

It should be remembered, however, that the gas is a deadly poison and should be used thoughtfully and with care. Keep the container carefully

covered; never breathe the fumes. Keep the cyanide away from children or other people. The gas evolved is deadly to all animal life. Do not carry it in a closed car, but outside. Put the container in a place where it is safe. Wash the hands after using."

We also inquired of Dr. Roger C. Smith, of the Kansas State College, an authority on mill fumigation, about the use of calcium cyanide, and quote from his reply:

"I believe that it would be practically impossible to breathe enough of the gas when it is used in the open in ordinary handling to be overcome. The danger from it is in closed rooms. I have used it for an entire afternoon, breathing considerable of the dust, and have never suffered anything worse than a little nausea and a slight headache. These effects are temporary.

"A tablespoonful of Cyanogas or Calcyanide to a hive with five or six supers is enough. The minimum amount used has not been determined, but it is well known that bees are very susceptible to it and small amounts will kill them. It requires somewhat larger amounts of it to kill waxmoth in the immature stages than to kill bees.

"It is also well known that anything exposed to the gas will absorb it in varying amounts, depending on the material. Gas is given off slowly in fumigating a hive. The hive should be opened up after fumigation and the combs allowed to give off the absorbed gas, especially if the person doing the work is subject to headache.

"Pure hydrocyanic acid gas is practically without odor. The odor which one gets from the cyanogas and calcyanide is chiefly that of acetylene or calcium carbide. When calcium cyanide comes in contact with moisture, some ammonia is also formed. The impurities which contribute to the odor give one an indication as to the concentration of the gas."

A letter from the American Cyanamid Sales Company, makers of Cyanogas, says, in part, as follows:

"The toxic hydrocyanic acid gas does not appear to have accumulative effects.

"In the summer of 1929 I spent considerable time at our liquid hydrocyanic acid plant in California. One of the men working there had been engaged for eight years in filling drums and cylinders with liquid hydrocyanic acid. Two other men had been working on the loading platform of the generator ever since we had the plant and for several years before, making in all, I believe, about twelve years. All three of them were in the pink of condition and surely showed no effects whatever from continuous exposure to hydrocyanic

acid gas over a number of years. It is possible, however, that the people out there would have attributed this health to the California climate. . . . I believe that Mr. Sasscer, of the Federal Horticultural Board, has had men working at least five or six years in the fumigation of freight cars along the Mexican border, and he has no knowledge of any injurious effects.

"In New Jersey we have a grinding plant for the manufacture of Cyanogas and also a unit for the manufacture of liquid hydrocyanic acid. We have men who have been working on these jobs for six years, where they have obtained not only the fumes but the dust, and on certain days the concentration may be such that they become sick in their stomachs, but there are no accumulative effects.

"William Moore, "Director of Entomological Research, American Cyanamid Sales Co."

"Honey 3000 Years Old"— What Are We Going to Do About That?

In "Bees and Honey" for October, on page 250, is an item that should be worked into every honey pamphlet printed. We read that "honey three thousand years old has been found in the tombs of Egypt and the honey is still good." (I think this could be enlarged on, since it was the only food found that was still good.)

Following this is a statement that the Department of Agriculture at Washington has kept clover honey almost sixty years. While it has changed in color and flavor, it is still good.

This fact should be given some prominence, coupled to the fact that no disease germs will live in honey. This could be worked into pamphlets and used everywhere.

I sell honey at a roadside stand above New Orleans, and this is a continual question: "Is the honey fresh?" and "How long will it keep?"

I have some of the Kellogg pamphlets and pass them out, but they do not give this valuable information. Jes Dalton.

California Bureau of Commerce Arranging for Shipment of Bees to Orient

The State Bureau of Commerce is arranging for an experimental shipment of bees across the Pacific Ocean.

The shipment is being made by the State Bureau of Commerce in response to a request from the American commercial attache, Julian Arnold, who desires to introduce California bees into the Orient. At the present time bees are imported in large quantities into China from Japan.—California Cultivator.

Unneighborly Bees—What to Do With Them

By Rev. A. A. Evans

I WONDER how many of my readers know Great Snorum. If not, I will explain that Great Snorum is a dear, delightful, sleepy little village which has stood still since the Middle Ages and is somewhere among the South Downs within a hundred miles of Brighton. Why described in formal documents and directories as Snorum Magna I don't know, as it is only the merest hamlet, except it be by rules of contrariness, which for instance styles the ancient fortress on the Tyne, Newcastle, and the newest pit village close by, Oldville.

There was great dispute on two doorsteps as I passed by on my bicycle. The voice pitch was high and the language heated. I am not usually interested in doorsteps "tiffs," though I know they have their value in adding, for many people, zest to village life. But I caught the word "bees" in the high argument going forward—"beastly, nasty, horrid bees." So, as I am interested in bees, their badness and their goodness, I paused round the corner just to gather knowledge.

There was not much to gather. Mrs. Prodger was speaking her mind and unburdening herself to Mrs. Beddam—a name careless people pronounce wrongly—her next door neighbor. It had to do with bees and children. Now I find that nearly all disputes among village people, and they can wax fast and furious when motherly feelings are aroused, have to do with children, generally the unsmacked and spoilt variety.

"What do you and yer husband want bringing bees here and planting them next our garden? Yer bees are a noosance, I tell yer; no child dare look at them but the nasty, horrid things come out and sting."

"Nothin' o' the sort, Mrs. Prodger, and ye know yer lyin'. What do your kids want bangin' at the boxes over the fence for and throwin' stones to make 'em come out? Your brats get stung, they get what they deserve. I'd be ashamed to own to sich a family. What they want is a good banging every morning afore breakfast. It would be good for them and good for the village."

"It's nothin' o' the sort, Mrs. Beddam. Your bees are like no other bees, and the police shall be told about it. No one can pass up the garden, no one can look your way, without they come out at you and sting yer face and hands and all over. Our Tommy is a sight. I'll show his poor little face to the police when he comes this way, I will. Bees, if I had bees like them o' yours I'd chuck them into the river. Ye don't

keep bees, ye keep ten thousand savages."

All this was most exhilarating. Groups of deeply interested village women came out to enjoy the wordy contest, and as far as I could make out sympathy was with Mrs. Prodger, but that was, I suppose, due to the pitiful appearance of Tommy Prodger. As one auditor remarked, "She had a mother's feelings."

I met Beddams, the husband, I mean, a few hours after going home. As good a man, peaceable and thoughtful, as you could find. So is Mrs. Beddams for the matter of that; it was only this unfortunate behavior of the bees which had aroused public wrath.

"What's all this, Beddams," I asked, "about your bees? I hear they are stinging honest people right and left. Mrs. Prodger's children, so I am told, cannot look your way without being disfigured."

"I dunno," he replied; "I wish I did. Ye see we've only one strip of garden with little or no fence between us, and there's no denying my bees—they do get cross sometimes. Commonly they're well behaved, but when its thundery and hot and the weather broody like, they're as nasty as they can be."

That is the way of bees, even of the best. They are creatures of moods, of circumstance, and when the weather is close and heavy, or when nectar is failing in the flower, or when they have been mismanaged by ill-judged manipulations, the best of bees can be the worst.

I gave Beddams what I hope was useful advice: Put an hurdle or several hurdles between his hives and his neighbor's garden. They should be high, six feet or thereabout. Or, failing that, some close wire netting would do. Its effect would be that his bees on flying out would at once mount sufficiently high to clear any passerby.

Bees, unless they are outrageously vexed, do not want to sting, and the upward movement such as a fence induces would prevent them from bumping against innocent people. It would not perhaps be a sufficient protection for Tommy Prodger if he persists in banging the boxes and throwing stones at bees, but that is another matter. Tommy will learn by experience.

England.

A Useful Publication

The United States Department of Agriculture has recently issued a list of publications on apiculture in the library of that institution. It is com-

plied by Vajen E. Hitz and Ina L. Hawes.

The vast literature on bees will be more readily appreciated when it is considered that the list itself comprises a volume of 218 large pages. The list is divided into eight parts for convenience of reference. The first section is devoted to books on bees; the second to reprints and separates of scientific articles, etc.; the third to publications of the Government; the fourth to publications of the states and territories; the fifth, laws; the sixth, periodicals arranged by titles; the seventh, periodicals arranged by countries, and the eighth, index of the names of authors.

It is a most useful work for students who wish to refer to the literature of beekeeping. Those interested should write to J. I. Hambleton, of the Bureau of Entomology, for information as to how copies may be secured.

Golden Rule Week— December 7 - 14

"Golden Rule Week" is perhaps the most far-reaching and unselfish philanthropy, non-sectarian and economically administered, the world has ever known. Hunger is an appeal few can or should resist, and this drive is in behalf of little, starving children of America and the world.

The "Golden Rule" Foundation, with headquarters at the Lincoln Building, 60 East Forty-second Street, New York City, has been established several years by some of our best known philanthropic workers, including people who are quite familiar to our readers: President, S. Parkes Cadman, Josephus Daniels, Charles S. MacFarland, John R. Mott, William A. Prendergast, Mrs. Franklin D. Roosevelt, Albert Shaw, James E. West, chief executive of the Boy Scouts of America, Curtis D. Wilbur, Mary E. Woolley.

The fund is collected through advertising, devised and distributed to all the publications of the country, headed by some of our chief advertising men, including Barron Collier, James Ethridge, T. W. LeQuatte, W. Livingston Larned, Frank Presbrey, Alexander Stoddard. These men are among the front rank of their profession. No one connected with this movement receives a cent, and the fund collected is not spent for administration purposes or for material means, but is entirely devoted to the purpose for which it was established—the relief of little hungry, starving children wherever they may be found at this Christmas time.

So we can give the movement our complete support and refer readers to the advertisement on page 583, where the appeal is made directly for your support.



More Adventures of the Bee Fairies

By Aunt Laura

(Synopsis: Four children with their Aunt Laura are invited by a bee fairy to visit the home of the honeybees. After all sorts of exciting adventures they are to be presented to the Queen.)

* * *

Chapter 10

"Remember your manners," whispered Mildred in her most grown-up way, but the boys were too excited to answer.

"Notice," whispered Fleet Wing, as they waited a moment more for the signal—"notice how our Queen's attendants surround her, always quite close to her, their heads usually turned toward her, waiting respectfully to heed her slightest wish."

Then, as the signal was given by one of the courtiers, the little group approached to the very center of the brood nest, where, surrounded by a dozen or more quiet, respectful bees, was her royal majesty, the Queen Mother.

Now, although the bee fairy children had fully expected her royalty to wear a jeweled crown and carry a golden scepter, they somehow were not disappointed that she did not, so truly royal and queenly did she look.

Very graciously indeed did she receive them, bowing to each as they were in turn presented to her, and quite thrilling them with her dignified courtesy, and gentle kindness.

They tried hard indeed to "remember their manners," and were glad indeed their own mothers had taught them something of the correct way to bow and courtesy, though no doubt their own dear mothers had never once suspected their children would ever be presented at a really royal court.

They tried hard, too, not to stare at the Queen; but she was so wonderfully beautiful; it really was a moment never to be forgotten. All of Fleet Wing's respectful words of praise concerning her were indeed true. Never could there have been a more beautifully regal creature. Very long and gently tapering was her body, very graceful and deli-

cately formed her wings, her golden brown garment much more elegant than that of an ordinary bee. And her eyes—oh, such wonderful eyes!

"I am pleased to have you visit us," she said. "I hope my bees will show you all the interesting things about our home. Feel free to ask as many questions as you wish, for I am sure Fleet Wing and all of the rest will be happy to answer them. Stay as long as you can." Then she paused and smiled at the two boys. "Eat all the honey and beebread you wish. I am sure you will like it." And turning to Aunt Laura and the little girls, she added: "And be sure to visit our royal cradles and see our babies." A few words more—gracious, kindly words—then she bowed with grave dignity and the bee fairy children knew the royal interview was at an end.

"Oh, oh," cried Doris May when the Queen and her royal court had moved slowly away and they had had the last glimpse of her majesty surrounded by others of her bodyguard, "isn't she beautiful? No wonder you love her."

"Somehow she makes me think of mother," remarked Dickey thoughtfully. "I know she is a queen and all that—"

"It's her mother-love, Dickey," remarked Mildred wisely.

"She is beautiful," added Doris May. "And what wonderful eyes!"

"Her eyes are so very big," commented Robert.

"They are large indeed," was Fleet Wing's answer. "I suppose you have noticed that all bees have unusual eyes, quite different from human eyes."

The bee fairy children gazed carefully into each other's and into Fleet Wing's. "Oh, cried Dickey, "they are different, aren't they?"

"Decidedly. You might almost call them compound eyes, or, to put it more simply, our eyes are as if many tiny little eyes were grouped together, one group on each side of the head, another group on top," was Fleet Wing's answer.

Here Dickey spied a nearby drone.

"And drones have awfully big eyes, too," he remarked.

Fleet Wing replied: "Yes, both queens and drones have larger groups of eyes than worker bees. Can you guess the reason?"

The bee fairy children thought hard for a moment. Suddenly Robert exclaimed: "I know. So they can see and find each other easily when they are out on their wedding flight."

"Correct," returned Fleet Wing; "just as the wings of queens and drones are made for swifter flying."

At this moment a great commotion arose. A startled buzz, BUZZ, filled the hive. Then a whiff of smoke; then the buzzing mounted to almost a roar.

"Oh, oh, what has happened?" cried the girls, clinging to Aunt Laura, while the boys glanced at Fleet Wing inquiringly.

"Is it a fire?" gasped Doris May. "Oh, I smell smoke. Oh, dear, what shall we do?" And they all gathered more closely about Fleet Wing.

Above the roar and the frantic rushing and bustling of bees here and there, they could scarcely hear their guide's answer: "Stay together; stay close together and do as I tell you. Quick, hurry—do as I do. Fill your honeysacs—fill them full, quick as you can."

Too frightened to ask questions, the bee fairy children did as Fleet Wing told them, sipping the nectar from the nearest uncapped cells, in their hurry fairly cramming it into their honeysacs, while the smoke about them grew more dense and the excitement increased. Bees ran frantically about, their confusion reaching almost a frenzy.

Suddenly rose the cry, "The Queen! Is she safe? Oh, where, where is the Queen?" And a creaking, crackling sound reached their ears.

"Oh," cried Robert, "can't we do something to help the Queen?"

"No, no, stay here," commanded Fleet Wing.

Then came a big human voice, the voice of Elliot, the hired man: "This yere col'ny needs a super, so Miss Laurie sed. I reckon I'd best put it on now like she tol' me."

"Dear, dear," exclaimed Doris May to Aunt Laura, "I do wish you had not told him."

"Just like him," grumbled Robert. "You bet if I get a chance at that old Elliot I'll sting him good."

"It seems to be only that man Elliot," exclaimed Fleet Wing. "He evidently intends to give us a new story on our house. No doubt his intentions are good; but he really did not need to give us such a lot of smoke."

Then more smoke, this time from above; then a gentle thud and Elliot's big voice again: "I mus' say this col'ny is pow'ful strong. If they ever takes it into they heads to go

to the woods—they's a good six pound of bees gone to timber."

"Now what does he mean by that?" inquired Mildred. But her question was unanswered, for now that the danger was apparently over, the bees were more restless than ever and buzzed about the hive indignantly. "He need not have been so rough," grumbled one. "That fellow Elliot is a perfect nuisance," cried another. "I'm glad the guards gave him a good stinging up," cried a third, while a fourth added, "When our Lady Beekeeper takes care of us herself, she only gives us a bit of smoke."

"And to think, Aunt Laura, we have watched you or Elliot put on supers dozens of times, and even smoked the bees for you. Oh, dear, I never thought of how it must frighten them," remarked Mildred.

"I was 'most as scared," confessed Doris May, "as when the playhouse got on fire—"

"And you boys put it out with grandma's sprinkling pot," commented Aunt Laura with a smile. And then the children laughed as they remembered that last Fourth of July when a stray firecracker set fire to their playhouse and only the speedy action of their cousins saved all the dear dollies from destruction.

"This has been the most exciting day of my life," exclaimed Doris May, with a sigh, "but I do hope Elliot will let this colony alone for a while."

"He probably will," returned Fleet Wing. "He has stirred the bees up so now that they will make it lively for him if he returns soon."

"Well, I don't blame them one bit," added Dickey; "but please tell us when everything was all upset, and we were all so scared, what became of the Queen? What did she do?"

"At the first suggestion of danger our Queen makes her way to the darkest, most remote part of the house, and there the bees gather about her and hide her in their midst. In this way she is protected and not apt to be found or injured. That is why I knew we need not go to her defense, for her protection would be the first attention given by every bee anywhere near her."

"And now tell us," added Robert, as everything was beginning to quiet down and they had made a tour of investigation of the new story, "do tell us why you had us fill our honey-sacs? Did all the other bees do that, too?"

"That is our custom, taught us also by our Heavenly Father to help preserve our household. I am glad you asked that question. In ages past, man has learned the only way to really subdue us is by the use of smoke. Through it man has taken our treasure for ages, and consequently we have learned at the first

(Continued on page 586)

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THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

USE OF FERMENTED HONEY

I have a lot of fermented honey from last year. What can I do with it? Will it make vinegar. Would it be all right to boil it and feed it to the bees? Can bakers use it after it is boiled? **NEW JERSEY.**

Answer—Fermented honey may be improved considerably by heating for some time to 140 to 145 degrees. It evaporates the gases in it and makes it thicker.

But I would not think of giving it to bees for winter, as it would probably be bad as winter food. It might be used for spring feed without any damage. It may be made into vinegar by diluting it with about a gallon of water for every two pounds of honey. But vinegar is not very profitable as made from honey, because it may be made so very cheaply from cider.

Bakers could probably use it if not too sour. There are many degrees of fermentation in honey, and although some may be used in bakeries, some sour honey would probably give a bad taste to the confections made with it.

WINTERING NEAR FURNACE

Please write me by return mail whether or not to winter bees in a furnace-heated basement. I have two weak stands in my basement. Each stand has a small screen and I am feeding them sugar syrup. **ILLINOIS.**

Answer—You can winter bees in a steam-heated cellar, provided you can fence them off so as to keep the temperature where they are at about 45 degrees. A temperature of more than 50 degrees would prove injurious, as they would worry themselves trying to go out for a flight.

Feeding bees in a cellar should be done with sugar candy, so as to give them as little extra liquid as possible.

If you have them screened in their hives, many of them will probably worry in trying to get out. If the temperature is right, they will not try to go out.

SCUM ON COLD HONEY

Will you kindly give me some information about my honey? When I extracted it I took it off the hives and extracted the same evening, four hundred pounds. It was so thick I could not strain it. It is very good honey, good color (light amber), good body, and a splendid flavor. I put it in new lard cans. It settled with a white scum on top fully one-fourth inch thick, or more. I tried skimming it with some success. I warmed some of it by setting it in hot water, then strained it through a very thin cheesecloth. This eliminated some of the scum, but not all. Under separate cover I am sending you a sample. Tell me what you think of it. What is the cause of the scum? What is the remedy? How does the honey grade? **ILLINOIS.**

Your honey is all right. The only trouble was extracting it and handling it when very cold and stiff. The air gets into it and cannot rise out without causing some scum. If you heat the honey that makes scum in that way, you will find that the scum will all disappear. Some honey ferments and makes scum which contains gas, but this honey surely did not ferment, and therefore the scum is only air bubbles.

Your honey grades very well. When you heat it, be sure that it is not heated too high. It ought not to get heated beyond

100 to 120 degrees. Put it up at once and let it cool promptly, as it gets a little color when it is kept hot.

BOILED HONEY—CARNIOLAN QUEENS

1. Will it be all right to feed my bees some boiled honey? This honey comes from cappings that I melted to get the wax from them.

2. Could you tell me where I can get some pure Carniolan queens? I got one, and her bees are about half yellow. Are they supposed to be this way? **OREGON.**

Answer—1. Yes, it will be all right to feed boiled honey. But if it is honey from fowlbroody colonies, it should be boiled a half hour. Then I would prefer not to feed boiled honey for winter. I would give the bees some sugar syrup and keep the boiled honey to give to them in the spring, for breeding.

2. Carniolan bees are a grey bee, not a yellow bee. But very few people import them, and for that reason it is difficult to find any that are pure Carniolans. I prefer the Italian bees, by all means, especially because I can always tell when they get mismated.

BEE'S PUNCTURING SOUND FRUIT

I am writing to you, as they say in the papers, "when a feller needs a friend."

I have a neighbor who claims my bees have punctured his sound fruit (grapes), thereby making the grapes unfit for sale. He is going to try and have my bees removed—and I do not know what else.

Have you any suggestions that would be useful to me in case he takes me into court? **MASSACHUSETTS.**

Answer—Bees cannot injure sound fruit, because their jaws are made like spoons and cannot tear the skin of the fruit.

There are two ways in which this may be tested: Take a bunch of sound, ripe grapes and put it inside of a beehive where nothing can reach it but the bees of the hive. After two days examine it and you will find that the bees have not damaged any of the berries. You may use a bunch of damaged berries as a witness, side by side with the sound grapes. The second method is to place a number of damaged grapes upon a table and attract the bees to them. Then, after they have been working on them for a while, remove all the damaged grapes and leave only one bunch of sound grapes on the table. The bees will crowd upon it and run over it until it becomes shiny, but they will be unable to open any of the berries.

Grapes are damaged by birds who come there early, at sunrise or before. They are also damaged by wasps and hornets, which have sharp jaws, unlike those of the bees. Grapes also sometimes burst open, when there is a great deal of rain. Bees, if short of food, will work on damaged berries, but it is injurious to them, as it ferments in the cells in the winter.

In the year 1879 we had a great deal of trouble with our neighbors, who thought we were getting rich from their grapes. We tried to convince them that they were mistaken, but some of them would not listen to anything.

My father then decided that the only way to convince our neighbors was to plant more

grapes than any one of them had. We planted five acres in 1880, and in 1885 we had 45,000 pounds of grapes on those five acres. We invited all the neighbors to come and see our crop, and since that time we have had no trouble from anyone in regard to the possibility of bees injuring grapes.

WINTER PACKING—BEST MATERIAL

1. I would like to know how to pack the supers on my beehives for winter, and what kind of material is best and how thick the packing should be on top the brood frames. If I remove all the frames from a shallow extracting super and put enough dry planer shavings or dry leaves in a burlap sack to fill the super full, will this be enough packing for a standard ten-frame hive here in West Virginia?

2. What is the best material to pack with in the supers?

WEST VIRGINIA.

Answer—1. Yes, after removing the combs from the super, if you pack it with a sackful of either planer shavings or dry leaves, you will have a pretty good packing for the top of your hive.

2. We are told that the best packing material for the supers is ground cork. But as ground cork is not very plentiful, we have always used dry leaves. We prefer hard maple leaves to any others because they pack so very nicely. But oak leaves will do very well. They must be dry, by all means.

KEEPING HONEY IN BASEMENT

1. I have a number of buckets of extracted honey in my basement. Would there be any danger of this honey absorbing any of the moisture in the basement or spoiling? The buckets are not air tight, but have just common tin lids.

2. If I should place my honey in the one-pound glass jars with cardboard disk, would you consider them safe in a basement?

NEBRASKA.

Answer—1. It would be better to keep the honey in a dry, warm place, but if the pails are well closed there will be but little danger of the honey souring, especially in cold weather. But do not keep it there in mild or warm weather.

2. Of course, if you have it in sealed jars there will be no danger of its absorbing any moisture. But have you any demand for honey in one-pound jars? It makes it so much more expensive for the purchaser.

CHEMICAL PROPERTIES OF HONEY

1. Please let me know if honey has any chemical properties, and what kind. If so, will it do any harm, or good, to the human health?

2. Also, any iron in honey? And what kind of honey has most iron in it, and in what part of the country is this kind of honey produced? What is the color?

ILLINOIS.

Answer—1. Honey, as far as I know, has no injurious chemical properties. It is good for human consumption, because, as they say, it is partly digested by the bees.

2. There is iron in honey, but in very infinitesimal quantity. A book which I have before my eyes just now, entitled "Les Tresors d'Une Coutte de miel" (The Treasures in a Drop of Honey), by a French chemist, Mr. Caillas, contains an entire chapter on the presence of iron in honey. It appears that the darker honey contains more iron than the light colored, as might very well be supposed, since iron darkens the articles that contain it. But the quantity of iron in honey is shown to be at most 0.05 per cent. In white honey obtained by him from Dr. Triaca, in Italy, the quantity of iron was as little as 0.007 per cent. Heather honey, from the Landes of southwestern France, showed the largest general average.

Analyses, in this country, of different grades of honey have never been published in book form as far as we know.



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More Adventures of the Bee Fairies

(Continued from page 583)

suggestion of smoke to protect ourselves and our treasure. Therefore, when the smell of smoke reaches us, it is our duty, each one of us, except, of course, the Queen and the drones, to fill our honeysacs just as full of honey as we possibly can."

"But why?" inquired Dickey. "Why don't you all go out and sting your robbers. I surely would."

"But don't you see, if we all rushed out to sting the 'robbers,' as you call them, we would lose our stings, and consequently our lives? No, dear, that would never do. We want to preserve our lives and therefore the life of our colony. Now guess again."

The children thought a long time, then shook their heads.

"We'll have to give up," said Mildred.

"We fill our honeysacs just as full as we possibly can so that—" began Fleet Wing. But Dickey interrupted excitedly, "Oh, I know, I know. If your honeysacs are all full, and you can save that much, why, if men took away all the rest of your treasure you could begin again."

"Yes," replied Fleet Wing, "we could begin again. If they left us our house, but took all the honey away from us, we could, by secreting and making wax of the honey in our honeysacs, as I told you a while ago, build new combs; and if they took away our house we could hunt up a new home, and with the honey we had eaten, start new comb. Then if there is any nectar in the fields, we would soon bring some in and thus get our family started to housekeeping again."

"But supposing there is no nectar in the fields?" suggested Mildred.

"Well, if no nectar is in the fields we would make our combs and do our best at finding nectar; but if it is late in the season and no nectar is to be found—well, we would just die, that is all."

"I think men are very cruel to take all your honey," remarked Doris May, indignantly.

"Men may not mean to be cruel, but they are often thoughtless. However, good beekeepers like ours"—and here Fleet Wing bowed courteously to Aunt Laura—"good beekeepers like ours take only what we can nicely spare, and leave us a great plenty to live on during the winter or when there is no nectar in the fields."

"I am glad you are a good beekeeper, Aunt Laura," said Doris May happily. "We must always be sure to leave our bees a whole lot; but just the same, I shall never, never smell smoke again without thinking about today."

MEETINGS AND EVENTS

Current association meetings and organization notices are published in this department each month. Secretaries and other officers of organizations who wish publicity here should make sure that notices are sent in before the fifteenth of the month preceding publication. Frequently notices are received too late for use and consequently do not appear at all.

Schedule of Beekeepers' Meetings for 1930-31

The schedule given below of meetings for fall and winter have been worked out by the schedule committee of the American Honey Producers' League under the direction of Mr. James I. Hambleton:

- * Oct. 18.—Jackson, Mississippi.
- * Oct. 29-31—Columbia, Missouri. (Three-day short course.)
- * Nov. 6-7—Montgomery, Alabama.
- * Nov. 12-13—Shenandoah, Iowa. (2) (6)
- * Nov. 17-18—South Dakota.
- * Nov. 18-19—Springfield, Illinois. (1) (2) (3) (6)
- * Nov. 20-21—Minnesota. (5)
- * Nov. 8—Los Angeles, California. (Fraternal Honey Producers.)
- Nov. 13—Riverside, California.
- Nov. 17—Sacramento, California.
- * Nov. 18-20—Chico, California.
- * Nov. 21-22—Portland, Oregon.
- Nov. 24-26—Ellensburg, Washington.
- * Nov. 28-29—Billings, Montana.
- * Dec. 1-2—Casper, Wyoming.
- December (early)—New York.
- * Dec. 4-5—Wisconsin.
- * Dec. 8-10—Michigan. (1)
- * Dec. 11-12—Indiana.
- Dec. 15-17—Ohio.
- Jan. 2-3—Nashville, Tennessee.
- Jan. 5—South Carolina.
- * Jan. 6—North Carolina. (1)
- Jan. 7—Lynchburg, Virginia.
- Jan. 9—Maryland.
- January—Worcester, Massachusetts. (1)
- * Jan. 7-8—Nebraska. (1)
- * Jan. 10—Boise, Idaho.
- * Jan. 12-14—Lafayette, Indiana. (7) (8) (Short course.)
- * Jan. 13-16—Illinois. (Short course.)
- Jan. 15-17—Ohio.
- * Jan. 21-22—Pennsylvania. (1)
- Jan. 22—Martinsburg, West Virginia.
- Jan. 23-24—Little Rock, Arkansas. (x)
- Jan. 28—Lexington, Kentucky. (1)
- * Jan. 29-30—Pennington, New Jersey. (1)
- * Jan. 20-22—Fargo, North Dakota. (1) (4) (5)
- * Jan. 26-30—Provo, Utah.
- * Feb. 4-5—Manhattan, Kansas. (1)
- Feb. 6-7—Oklahoma.
- January-February—Columbia, Missouri. (Eight weeks short course.)
- * Feb. 9-13—New York. (Short course.)
- * Feb. 9-15—East Lansing, Mich. (Short course.)
- * Feb. 9—American Honey Institute, Toronto, Canada. (6)
- * Feb. 10-12—American Honey Producers' League, Toronto, Canada.
- * Feb. 10-11—Apiary Inspectors of America, Toronto, Canada. (6)
- Prior to Southern Conference—Meetings to be arranged in Arkansas, Texas, Louisiana, Mississippi, Alabama, Georgia, Florida.
- * Feb. 18-19—Southern Conference, Montgomery, Alabama. (5) (6)
- * March 3—Colorado.
- March 6-7—Nevada.

- * Date definitely set.
- (x) Cannot conform to schedule.
- (1) Funds will be allotted for speaker.
- (2) Speaker scheduled—O. A. Lende, Mountain States Honey Producers' Ass'n.
- (2) Speaker scheduled—Father Jaeger.
- (4) Speaker scheduled—Dr. M. C. Tanquary.
- (5) Speaker scheduled—A representative of a bee supply house.
- (6) Speaker scheduled—A representative of a bee journal.
- (7) Speaker scheduled—R. H. Kelty, Michigan.
- (8) Speaker scheduled—F. B. Paddock, Iowa.

Toronto League Convention

What the coming convention of the American Honey Producers' League, to be held in Toronto, February 10 and 12, will mean to the beekeeping

industry remains to be seen. There are matters of great importance to beekeepers which should come up for attention at that time. Subjects having to do with marketing and research on bees and honey should form a major part of this program.

The interest already shown would indicate that many beekeepers from the United States and Canadian provinces will attend this convention for the exchange of ideas and suggestions for more profitable beekeeping. Speakers for the meeting will be drawn largely from the membership of the organization.

North Dakota Meeting and Winter Course

The annual meeting of the North Dakota Beekeepers' Association and the winter course at the North Dakota Agricultural College, Fargo, will be held during Farm and Home Week. The Association will meet at the college on January 21, and the short course will be held the following day. The program which is being arranged should be of interest to every beekeeper. The many activities going on in connection with Farm and Home Week program make this a very satisfactory time to hold the beekeepers' meetings.

Out-of-state speakers already secured include representatives of the beekeeping department of the University of Minnesota and the Kellogg Company of Battle Creek, Michigan. Other speakers will be drawn largely from the membership of the Association. The keen interest which beekeepers have shown in these meetings in the past is in itself an indication that a fine attendance can be expected. Beekeepers are always interested in a meeting of this kind, where they can get together and compare ideas and receive suggestions which will enable them to make a greater success of their business.

J. A. Munro, Sec'y-Treas.

Winter Convention of Utah Association

The Utah State Beekeepers' Association will hold their annual winter convention at Provo, Utah, on December 4 and 5. The principal subjects to be discussed will be the present apiary laws and the interstate shipment of bees between Rocky Mountain and Pacific Coast states under the jurisdiction of the Western Plant Quarantine Board.

The president of the Association is

T. L. Ball of Utah, and the secretary O. R. Baird of Provo.

Michigan Beekeepers' Meeting, December 8-9

This year the annual meeting of Michigan will be held December 8 at Saginaw and December 9 at Adrian. We do not have any further details. Inquire of R. H. Kelty, East Lansing, Michigan.

Wyoming Beekeepers' Meeting December 1, 2, 3, at Casper

E. C. Judson, secretary of the Wyoming Beekeepers' Association, writes that the meeting this year will be held at Casper, Wyoming, in the Hotel Townsend, December 1, 2, 3.

Ninth Annual Winter Course at Winnipeg

Manitoba Agricultural College, Winnipeg, announces that the ninth annual winter course in beekeeping is to be held at the college under A. V. Mitchener, professor of entomology, and L. T. Floyd, provincial apiarist, January 19 to January 30, 1931. Those interested should write direct to Professor Mitchener for an announcement giving subjects and cost.

Indiana Meeting Week of January 12

This year we have decided to hold our beekeepers' meetings at Purdue University, Lafayette, Indiana, in connection with the annual Agricultural Conference during the week of January 12. The dates for the meeting will be January 12, 13 and 14, 1931, and we will have with us R. H. Kelty of Michigan, F. B. Paddock of Iowa, and several Indiana beekeepers, including Orin Jessup, Lee Stewart, Frank Wallace, and Mr. B. E. Montgomery, of our instructional staff.

J. J. Davis.

Fifty-five at Rock Island County Meeting

The annual Rock Island County Beekeepers' Association (Illinois) on September 17 met at John F. Johnson's apiary at Hampton with fifty-five in attendance. There was a good fish-fry for dinner, with fifty pounds of fish gone into the making of substance for next year's honey season.

The report from the members indicated a good year in that section of Illinois, although some report foul-brood and colonies destroyed.

S. F. Peterson, Secretary.

Alabama Establishes Demonstration Apiaries on State Farms

Demonstration apiaries have been established in Blount, Limestone and Marion counties, according to W. A. Ruffin, of Alabama, five colonies forming units. The purpose is to check on the value of bees and to show the farmers what they will do.

Alabama beekeepers have donated

bees for the apiaries, among them being Jasper Knight, J. M. Cutts, W. E. Harrell, Zed Gafford, and the Citronelle Apiary.

This kind of extension work is the most worth-while we know of.

L. D. B.

Honey Prizes in Missouri

Leo Bradford, of Liberty, was declared sweepstakes winner in the honey show at the 1930 Farmers' Week, State College. His winnings included first place for six best combs of white honey; best six pounds extracted white; best six pounds white chunk; best six pounds white candied; best six pounds extracted amber; best frame of sealed honey; best five pounds of beeswax; best display of honey and bee products.

Miss L. Cannon, Kansas City, won first in the best six combs of amber honey; William Sass, Concordia, for the best six pounds of amber chunk; William Brengarth, Slater, first in the following classes; Best six pounds or more white candied honey; best empty brood comb; best one pound honey cakes; second prize for best dozen honey cookies. Katherin Neef, Boonville, won first prize for best one pound of honey candy.

Dr. Henry T. Fernald of Massachusetts Retires After 31 Years

After thirty-one years of continuous service as head of the Department of Entomology at the Massachusetts Agricultural College, Dr. Henry T. Fernald retired on July 1, 1930, to devote his time to his study of the Sphecoidean wasps and other researches in entomology. For administrative purposes, the Departments of Entomology, Zoology and Geology have been combined into a single major department, with Dr. C. E. Gordon, professor of zoology and geology, as head. Dr. Charles P. Alexander has been promoted to a full professorship, in charge of the college instruction in entomology. Dr. G. Chester Crampton continues in charge of all work in insect morphology and phylogeny. Assistant Professor Arthur I. Bourne has been made a professor, in charge of the research in the Agricultural Experiment Station. Mr. Clayton L. Farrar has been promoted from instructor in apiculture to assistant professor, and Dr. Harvey L. Sweetman has been appointed assistant professor, in charge of the courses in insect ecology and physiology. Dr. Fernald will remain at Amherst until about October 1, but thereafter will reside at 707 East Concord Avenue, Orlando, Florida.

Dr. Fernald and Dr. Gates, apiary inspector of Massachusetts and former associate professor of beekeeping in the Department of Entomology at Massachusetts Agricultural College, were associated in the beekeep-

ing work throughout the state. Beekeeping work at the present time is in the hands of Professor Clayton L. Farrar, mentioned above.

Mini-Cassia Honey Producers' Association Meets at Paul, Idaho

In a recent beekeepers' meeting and picnic of the Mini-Cassia Honey Producers' Association, at the home of Dan Cobb, Paul, Idaho, methods of packing for winter were uppermost. Members were divided as to the advantages of single- or double-story hives, but all agreed that at least they should have a good wind-break and from thirty-five to forty pounds of good honey.

Members report the poorest honey-flow for ten years, due, apparently, too cloudy weather. G. P.

Obituary

Dr. Vincenzo Asprea

Italy is mourning the loss of one of its renowned writers on beekeeping, although he is little known outside of its frontiers — Dr. Vincenzo Asprea.

Dr. Asprea was one of the regular contributors of "L'Apicoltura Italiana," published at Ancona. He translated articles from our American magazines, and the October number of L'Apicoltura Italiana, which announces his death, on September 17, contains translations by him from the German, from the French, from our own American Bee Journal, and from Gleanings.

Dr. Asprea was already a noted apiarist when we visited Italy in 1913, and our American Bee Journal contains a photo, page 161, May, 1915, showing six leading beekeepers of Italy before the Ministry of Agriculture in Rome, in 1911. Asprea was one of them. Only one of them is now living, Eng. Capponi.

Let Every Beekeeping Family Eat Honey

The psychology of salesmanship is a subject that most of us beekeepers need to study. Thirty years ago the matter of advertising and marketing honey was discussed in bee journals and beekeepers' conventions in identically the same words that are used today. During the quarter of a century and more just past there has not been a new idea advanced nor a new word coined to help the sale of honey.

And yet bees can "sell" the idea that they are "interesting bugs" any time they take a notion to park themselves at a conspicuous place in the street of a big city. Let a swarm of bees decide to take a mid-day siesta on a fire-plug, as one did recently in a busy street of the city of San Diego, California, and a picture of

the swarm-decorated fire-plug and the dense crowd of people who seemed to having nothing else to do but to stand and look at resting bees will be printed in leading newspapers throughout the country.

Or, let some man get the idea into his head that honeybees are killing the goldfish in his outdoor aquarium, go on the warpath and have all bees removed from the corporate limits of the town where the goldfish live, and that story will be good for a frame of stars on a prominent page of a big city newspaper. In other words, the bees can sell themselves every time they take a notion to pull an unusual stunt. If the bees can do it, why can't the beekeeper do it?

Of course, no one is going to advise beekeepers to take noonday naps on fire-plugs, nor go around killing the neighbors' goldfish in the hope of creating favorable publicity for honey; but even that would be a new idea, and new ideas are mighty scarce. Just for fear that those who read this foolishness will say, "All right, we agree with that; but suppose you show us one of those bright new ideas, Mr. Writer; just pitch us a sample." Well, here it is:

Let every beekeeping family in America eat honey as vigorously as they try to get other people to eat it. "But," you say, "there's nothing new in that idea." Wait a minute. If they actually *did* it, that would be something new, wouldn't it?

R. B. McCain, California.

Misbranding of Candles Halted by Federal Trade Commission

A candle manufacturing corporation will cease and desist from use of the words "beeswax" and "wax" on brands or labels or in advertising matter so as to impress upon the public mind the belief that its products are made of beeswax, according to a stipulation agreement between the company and the Federal Trade Commission.

Provision is made in the agreement that when the candles are composed in substantial part of beeswax and the word "beeswax" or the word "wax" is used as a brand or designation, such words shall be accompanied by other words in type equally as conspicuous as "beeswax" or "wax" so as to clearly indicate that the candles are not made wholly of beeswax, but contain in part ingredients other than beeswax.

Bees Dwelling in the Ground

It appears that, in some parts of Texas, the drouth causes large cracks to form in the ground. The following is reported in the Dallas Journal:

Bees swarming around and into the ground and making honey in the large cracks caused by the drouth

were found Monday at 3017 Knox street, the office of Crowley Brothers, contractors.

Miss Ethel Crowley noticed the bees Monday morning when they began going in and out of the ground in large numbers. It was the first time she had ever seen bees working in the ground, she explained.

The bees were identified by several experts as Italian bees, which, according to a bulletin published by the Texas Department of Agriculture, are most popular throughout the country. They are the best for all purposes and are gentle, being less inclined to sting than other varieties. As honey gatherers, the Italians are superior to the black bees in every respect.

A New Garden Book

"Practical Tomato Culture" is the title of a new book recently from the press of the A. T. De LaMare Company, by Frank C. Pellett and Melvin A. Pellett. Melvin, the son of the Field Editor of American Bee Journal, is a gardener who has specialized in tomatoes, and the book is largely the result of his experience.

Of special interest is the chapter on forcing tomatoes for the early market by means of potted plants, staking and pruning. These intensive methods hasten the ripening and permit the grower to get his early fruit on the market when prices rule high.

Every phase of tomato culture in the field and under glass is discussed, together with suggestions for control of insect pests and diseases. The book is attractively bound in red cloth cover and sells for \$1.50 per copy. It can be had from the office of the American Bee Journal.

Sore Eyes and Honey Again

In a late issue of your American Bee Journal, Mr. Jes Dalton writes of an experience of selling honey for "sore eyes" as a new one on him.

I will quote from Dr. C. C. Miller's "Forty Years Among the Bees" (page 320), second edition: "Honey for Sore Eyes.—A neighbor of mine had inflammation in his eyes. He tried many things and many physicians; was not any better, but rather grew worse, until he was almost entirely blind. His family was sick and I presented him with a pail of honey. What they did not eat he put in his eyes, a drop or two in each eye two or three times a day. In three months' time he was able to read coarse print, and after four months' use his eyes were almost as good as ever. I have also found honey good for common cold-sore eyes.—S. C. Perry."

Earl B. Pride, Massachusetts.

GUARANTEED BEE SUPPLIES AT LOWEST COST IN YEARS

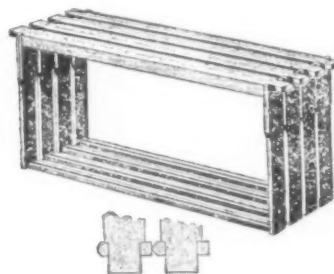
First quality goods—quick service—low, direct-from-factory prices . . . these policies, so successfully maintained by the former Schmidt Bee Supply Company, are also Home Comfort policies.

You will find all Home Comfort hives, supers, brood frames and other items built of choicest white pine; and built with special attention to details. They LAST! Enlarged factory facilities enable us to fill your orders with extra speed. Buying direct from our factory nets you a 15 to 25 per cent saving. We always have a full line in stock. Satisfaction guaranteed. Monthly payment plan if desired.



**One-Story Standard Hive
With Metal Cover**

Take advantage of our special reduction on the hive illustrated above! One story with galvanized metal roof cover and inner cover. Ideal for both winter and summer protection. Made of select white pine; body has dovetailed corners with hand grips cut in sides and ends. Standard Hoffman self-spacing frames. Reversible bottom. Ten-frame hive measures 16 1/4 by 20 inches by 9 9/16 inches deep, outside measurements.



Hoffman Self-Spacing Brood Frames

Write for our low price on these splendid frames. Made with a one-piece solid bottom bar for plain foundation; also with a split bottom bar or two-piece for wired foundation. State kind desired. Frames made of Cali-

fornia soft sugar pine, all parts milled to fit perfectly. Will not split in nailing. Frames packed in Mullen Tested Corrugated Cartons in lots of fifty or one hundred. Come complete with nails and staples.



THE HOME COMFORT CO.

881-885 NEWCOMB ST. ST. PAUL, MINN.

Are You Asking—How Shall I Sell My Honey?

The answer is easy! Beekeepers are fast learning that the best market is the home market. Honey packed in attractive containers sells best.

Build up your local market. Decorate your grocers' shelves with rows of your choice honey neatly marked with your attractive label.

If you do not find a stock label in our catalog which meets your needs, send us your ideas and we will put them in color.

We also furnish stationery, business cards, selling helps, show cards, in fact all the printing needs of the beekeeper. Catalogues on request.

AMERICAN BEE JOURNAL, Hamilton, Illinois

Mention The American Bee Journal When Writing Advertisers

AEPPLER DISPLAY 'O WRAPPERS

The Modern Merchant Believes in the Open Display of Goods. Have Every Section a Display Case.

Wrap Comb Honey and Keep It Clean

DISPLAY 'O wrappers are the only mechanical wrappers on the market; require sealing on one end only. Automatic machines have done three-fourths of the work for you! A thing of beauty, practical and economical. Can be hand wrapped three times as fast as flat wrapped. For quantity work, use our machine. The cellophane used in DISPLAY 'O wrappers is 50 per cent HEAVIER than the cellophane in competitive wrappers. Strength is a requirement of a GOOD wrapper.



PRICES

	Per 100	Per 500	Per 1000
For 4 1/4 x 1 1/2	\$1.10	\$4.95	\$ 9.80
For 4 1/4 x 1 1/2	1.20	5.40	10.70
For 4 x 5 x 1 1/2	1.20	5.40	10.70

ALL TRANSPORTATION CHARGES PREPAID to any address in the U. S. and Canada. Sample wrapper sent prepaid to any address for 5c. Wrap comb honey and pack in Corrugated Case at no greater cost!

Pack comb honey in corrugated cases and save money. In Comparative DRUM TESTS, the wooden case and honey was completely damaged in ONE drop, whereas, honey packed in Corrugated Cases after TWELVE drops showed less damage to both case and honey!

Cut labor costs; no nailing of cases! Wrap comb honey and pack in Aeppler cases at no greater cost than wooden cases.

Comb Honey Packaging Machine

The only practical comb honey packaging machine on the market. Manufactured to last a life time. Price \$8.75 prepaid to any address.

C. W. AEPPLER COMPANY

Oconomowoc Wisconsin
(Sole Manufacturers and Jobbers)

Buy While Prices Are Low

Send us your list; let us quote

you special prices for ship-

ment prior to December 15,

1930.

Our products are guaranteed

to please.

Leahy Manufacturing Co.
Higginsville, Mo.

HONEY

Keep Your Trade Supplied

Do not let your established honey business fail through lack of local honey supply.

Buy good honey. We are in touch with beekeepers who have a supply. This we can secure for you at cost. Shipment will be arranged from producers located nearest you.

Let's together keep up the volume of American honey consumption.

Write now for prices and samples.

The A. I. Root Company of Iowa
Council Bluffs, Iowa

PACKAGE BEES

Shall price or quality be your guide? We combine both and spare neither labor or expense to give you the best quality and service at a price that will please you.

We are booking orders now for high-grade Italian bees and queens for Spring delivery. Attractive prices on early orders. Let us quote you on any quantity. You can not buy better bees or queens. Satisfaction guaranteed.

If in need of queens now, we can furnish them at \$1.00 each, prompt shipments.

Lewis Beeware and Dadant's
Wired Non-Sag Foundation

YORK BEE CO.
JESUP, GEORGIA

Crop and Market Report

Compiled by M. G. Dadant

For our December crop and market page we asked reporters to answer the following questions:

1. How is honey selling locally?
2. What proportion of 1930 crop still on hand?
3. How is the jobbing demand? Increasing?
4. What prices now offered car lots white extracted? Comb?
5. Are beekeepers holding for better prices? What prices?

HOW IS HONEY SELLING LOCALLY?

Compared with a year ago, we would say that the local sales of honey are perhaps 75 per cent of normal. This is particularly true in the western section. The New England states seem to have a very desirable sale, and we believe that to a great extent the shortage in sales of honey this year is due to the fact that we have not had any heavy cold snaps yet. We believe that if the cold weather had come, the sales on local lots of honey would be almost up to normal.

PERCENTAGE OF HONEY ON HAND

The percentage of honey on hand varies considerably with each section of the country, the largest quantities being on hand in western and intermountain territories. As a general rule, more than half of the honey has been disposed of, and in many instances as much as 75 per cent of it is already sold. It is in the western states, however, that we find that in many cases 80 per cent to 90 per cent of the honey is still held on hand due to the fact that there is very little demand for carload lots and it is difficult to sell locally.

THE JOBBING DEMAND

The jobbing demand practically everywhere is very light. As a matter of fact carload buyers do not seem to be interested in honey except at extremely low prices, and as a result there is not the car lot movement that there should be. In addition to this, the shipments for abroad are extremely light also, owing to the German duties and the restrictions placed elsewhere on honey. All in all, the jobbing demand could not be much less than it is now, and the possibilities are for a better demand later on, we hope.

PRICES OFFERED

As stated previously, the prices offered on honey are fluctuating just as much as could be possible. In most instances prices of about 5½ to 6½ cents are offered for good white honey in carload lots. We have heard of a number of cars moving as high as 7 cents per pound and some carload lots of comb honey moving at \$3.00 per case. The usual run, however, is in the neighborhood of about 6 cents per pound for carload lots of honey f. o. b. shipping station. In the central western states and in the eastern states price of about 8 cents on clover honey is the general rule. This does not mean to say that all beekeepers are selling at this figure, but that there are a quantity of sales at these figures and that the buyers do not seem to be interested in very much heavier figures, although many beekeepers are holding for better prices. We have learned of car lots of white western honey moving as low as 5 cents per pound and comb honey at \$2.75 per case.

The situation with reference to comb honey, however, is far better than with extracted, and we know of very little comb honey in carload lots still to be offered for sale. There are still considerable quantities, however, of less than carload lots in central western territories which have not been disposed of. The revelation wrapper, we believe, has been the solution of comb honey distribution in that it has tended to increase the demand many fold over the bulk of the territory.

PRICES

There are a large number of beekeepers who would like to obtain the same prices as last year, but very few are actually doing it. Where the beekeeper has a limited local trade worked up and not too large a stock of

honey, he is able to maintain his 1929 prices. In most instances, however, we believe that retail prices on honey are at least 15 per cent less than they were last year, and in many instances much less than this. We learn of western white extracted honey selling from chain stores as low as \$1.00 for a ten-pound pail, which seems to be about the limit for lowness. Even at that, could you blame the western beekeeper for disposing of his honey even at this figure when he is not able to sell it in larger lots at more than 5 to 5½ cents per pound?

All in all we believe that the East and the central West as well as the Southeast would have very little difficulty in disposing of all of their honey and being in good shape for next year were it not for the fact that there is apt to be an influx of honey from the western territories into these sections, which will cut the prices considerably below what beekeepers will want to take. The Southeast seems to be disposing of their honey practically all through honey peddlers and local sales, and the very short crop in Texas has minimized the danger of a carry-over there, although it does not put much money in the pocket of the beekeeper himself. We learn of Louisiana beekeepers being offered a price of 5 cents for their amber honey, which is about in line or really a little better than the 5½ to 6 cent price for the white honey of the intermountain states. Not that this is any reflection on the darker Louisiana honey, but that is just about the comparative value in markets like the New York and Chicago markets.

All in all, we could not conceive of a much worse situation as concerns the low prices and the cut prices on honey. It seems like many beekeepers have been ready to dispose of their honey at whatever price they could get, and, of course, this affects the morale of the entire price structure. We believe this in part has been caused from the fact that the carload demand is very light and that some of the beekeepers who were used to selling car lots previously are now entering into the local markets and selling at far below the normal figure.

No doubt it is going to be difficult to get a restoration of the price structure in the honey market, but we do not see how it could be very much worse than it is now, and we look for some improvement as soon as cold weather arrives and after the holidays have been put out of the way.

Naturally, the largest obstacle in the way of ready sales for honey is the general business discouragement. Once factories start operation and conditions begin to improve, no doubt the demand for our products will improve along with it.

In Canada, the province of Ontario reports many beekeepers very anxious to sell their honey and willing to cut the prices rather than hold and maintain a satisfactory price. In the western provinces the same condition seems to be the case, but prices are somewhat higher there, with little difficulty of disposing of the entire crop. A late report has come to us which indicates that the Canadian Government is considering seriously the using of honey in making wines, so as to use a local product instead of a foreign imported sugar. Naturally this would eventually clean up the excess of honey in the Canadian provinces and should in time improve the price materially.

All in all, although we cannot be at all optimistic over the honey market conditions and honey prices, still it certainly looks like the lower limits have been reached for the 1930-31 winter and that there might be some appreciable change in conditions from now on. In the central western areas many beekeepers are cleaning up rapidly on such little honey as they got this year and are in a position to buy additional lots for supplying the demand. If every beekeeper would only do this, it would rapidly clear up the flooding of the market in other localities.

We Are Cash Buyers of Honey and Beeswax
Submit samples, and best prices, freight prepaid
Cincinnati. We also furnish cans and cases.
Fred W. Muth Co. Pearl and Walnut
Cincinnati, Ohio

Renew Your Subscription

Write for Our Special Club Offers
AMERICAN BEE JOURNAL

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Chicago
Buy and Sell All Grades Extracted Honey
References: 1st National Bank, R. G. Dun or
Bradstreets Commercial Reports.

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This Is Your Market Place

—where you may buy, sell or exchange at moderate cost — only 7 cents a word. Count each word of your message, including name and address. Our advertisers tell us: "IT PAYS." Send your ad for the very next issue now to reach us by the 15th. Terms: Send remittance with copy and order. Minimum ad ten words.

Only
7c
a word

You Sell Quicker by Telling More

Ads as small as ten words, costing only 70c, are accepted here, but our regular advertisers have demonstrated that it pays to tell more. Use enough words to thoroughly describe your offering and you'll sell quicker. Address all orders or inquiries to the Classified Advertising Department of the American Bee Journal, Hamilton, Illinois.

Will sell your Honey, Flowers, Poultry, Fruit, Pets (as rabbits, etc.) and more . . . Is your ad here?

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

BEES AND QUEENS

BUY your queens from Allen Latham, Norwichtown, Conn.

PACKAGE BEES—For April and May delivery. Write for prices, guarantee, etc. The Crowville Apiaries, R. 1, Winnsboro, La.

BOOKING orders for 1931. Combs of brood, \$1 each; combless pounds, \$1 each. Spring reared good Italian queens \$1 each. Gentle, light colored stock. Everything shipped in approved standard packages. Orchard pollinating packages a specialty; fool proof. Fifteen years' experience. Reference given. Literature sent. No Canadian business accepted. Jes Dalton, Kenner, La.

TESTED ITALIAN QUEENS \$1.00 each; twelve for \$10.00. Ship now, anywhere. D. W. Howell, Shellman, Georgia.

FOR SALE

FOR SALE—100 colonies bees in painted hives, with full sheets wired foundation. No disease. Price of hives and foundation only asked. L. L. Ferebee, Finland, S. C.

COMPLETE apiary business for sale, in Canada. Address "American Bee Journal."

HONEY packing equipment for sale. Suitable for modern growing honey packer serving wholesale trade. Two double-jacketed copper tanks holding 125 and 240 gallons, respectively; also warm air room to melt 48 cans, five-gallon size, with receiving settling tank supported on legs to permit gravity flow of honey into filling tanks. All gas heater connections and everything complete to use for melting and packing at special price due to operating larger plant, and all new equipment ready for use. Can arrange inspection and price. Honey Packers, Inc., 230 Park Ave., New York City.

HONEY FOR SALE

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—White clover honey in 60-pound cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

COMB, extracted and chunk honey in ten sizes glass containers and 2½-, 5-, 10- and 60-pound tins. Livest labels in U. S. or plain. One of our special display cases with \$25 and \$50 orders. Write for free illustrated circular showing our packages and free samples of honey. Griswold Honey Company, Madison, O., U. S. A.

STURDEVANT'S CLOVER HONEY — St. Paul, Neb. Any quantity.

HONEY FOR SALE—All grades, and quantity. H. & S. Honey and Wax Company, Inc., 265 Greenwich St., New York City.

NEW CROP shallow frame comb honey, also section honey; nice white stock, securely packed, available for shipment now. Colorado Honey Prod. Ass'n, Denver, Colo.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

FOR SALE—Extra choice white clover honey, case or carload; also amber. David Running, Filion, Mich.

FOR SALE—Our own crop white clover and amber fall honey in barrels and cans. State quantity wanted and we will quote prices. Samples on request. Dadant & Sons, Hamilton, Illinois.

FOR SALE—Northern white, extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

WHITE Clover extracted honey. Write for prices and samples. Kalona Honey Co., Kalona, Iowa.

WHITE CLOVER comb honey, packed eight cases to carrier. W. L. Ritter, Genoa, Ill., DeKalb County.

HONEY FOR SALE—White and amber honey in 60-lb., 10-lb. and 5-lb. tins. Write for prices. Dadant & Sons, Hamilton, Illinois.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. E. J. Stahlman, Grover Hill, Ohio.

FOR SALE—Delicious palmetto honey in barrels; also heavy bodied amber. P. W. Sowinski, Fort Pierce, Fla.

HEAVY BODIED water-white sweet clover honey in case or car lots. Sample 10c. C. S. Engle, 1610 Fourth Ave. South, Fargo, N. Dak.

FOR SALE—"Black Hills" fancy extracted honey from sweet clover and alfalfa, in 60-lb. cans, at 8 1/3 cents per pound. Write for prices on large lots. Ernest W. Fox, Fruitdale, S. Dak.

FOR SALE—Best quality clover honey, \$9.00 per case of 120 pounds; new crop. Virgil Weaver, Merville, Iowa.

FINE clover honey, extracted and sections. State amount needed and get my prices. L. G. Gartner, Titonka, Iowa.

FOR SALE—Finest quality clover honey. Lewis Klaty, Carsonville, Mich.

FOR SALE—Sweet clover extracted honey; quality and body fine. Thomas Atkinson, Route 5, Omaha, Neb.

FOR SALE—White clover comb (4¼x4¼ sections) and extracted in 60-lb. cans; also buckwheat in 60-lb. cans. C. Holm, Genoa, Ill.

HONEY—We sell the best. Comb in carriers of eight cases each; extracted, basswood, buckwheat, sweet clover, white clover and light amber. Tell us what you can use for prices. A. I. Root Company of Chicago, 224-230 West Huron St., Chicago, Ill.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

FOR SALE—Clover honey. One case, 120 pounds, \$12.00; five cases, \$56.00; ten cases, \$106.00. Fred Leininger & Son, Delphos, Ohio.

DELICIOUS honey, light sweet clover or heartsease; 10c per pound in 60-lb. cans; 10-lb. pails, \$1.50. Arthur Thayer, Superior, Nebr.

STEWART'S honey in any containers. Sample free. Henry Stewart, Prophetstown, Ill.

WHITE CLOVER—Comb honey, eight cases to a carrier, at Schwind's Apiary, Route 3, Belvidere, Ill.

1930 CROP—Finest white clover honey. Write Stoller Apiaries, Latty, Ohio.

WHITE CLOVER comb, fancy and No. 1 white. F. B. Sherman, Edgerton, Wis.

WHITE sweet clover-alfalfa, in case or carload. Sample 15c. George Seastream, Moorhead, Minn.

MAKE MONEY selling honey. Write for details. Jessup Honey Farms, Carmel, Ind.

FOR SALE—White extracted honey, case or carload. Roy Littlefield, Exira, Iowa.

WISCONSIN clover-basswood honey in new 60-lb. cans, \$6.00; 120 lbs., \$11.00. F. E. Valesh, Couderay, Wis.

NEW extracted honey in ten- to twenty-case lots at 7 cents per pound f. o. b. Omaha. Harry Timm, Bennington, Neb.

CLOVER HONEY 7c; fall blend 6c. Samples 15c each. Edward Klein, Gurnee, Ill.

FINEST white clover honey in new 60-lb. cans and cases, 9 cents per pound. Sample 15c. C. P. Jankowski, Gurnee, Ill.

BUCKWHEAT honey of quality in new 60's, \$8.50 case. W. Keyser, 242 Union St., Schenectady, N. Y.

No. 1 CLOVER comb, \$4.50 per case; No. 2 clover and amber, too dark, \$3.50 per case. In 25-case lots, 5 per cent off; 50-case lots, 10 per cent off above. Clover extracted in 60-lb. cans, 9c. H. G. Quirin, Bellevue, O.

70 CASES clover-basswood at 9c; 20 cases buckwheat at 8c. New cans, cases. A. J. Wilson, Hammond, N. Y.

CLOVER comb and clover and light amber extracted honey. No disease. W. C. Moon, Henry, Ill.

HONEY AND BEESWAX WANTED

WANTED—A car or less quantity of white honey in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, 816 Hazel St., Birmingham, Mich.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5 cents a pound for wax rendering. Fred W. Muth Company, 204 Walnut St., Cincinnati, Ohio.

WANTED—Car lots of honey. State quantity, shipping point and price. Mail sample. Hamilton, Wallace & Bryant, Los Angeles, Calif.

WANTED—Limited amount of shallow frame comb honey, also section and extracted. Lewis Poyner, Eaton, Ohio.

WANTED

BEES to care for on share, for next season, by a successful bee man. J. A. Atherton, 621 N. Lafayette St., Macomb, Ill.

TWO bee men in southern package belt wish to buy large bee outfit in midwestern clover belt. Box A, American Bee Journal.

SUPPLIES

SAGGED COMBS are result of slackened wires caused by wires cutting soft wood of frames. Use metal eyelets. Per 1,000, 60c. Handy tool for inserting eyelets 25c. Postage 3c per 1,000. Superior Honey Co., Ogden, Utah.

FOR SALE—We are constantly accumulating bee supplies, slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it. Dadant & Sons, Hamilton, Illinois.

MAKE queen introduction sure. One Safin cage by mail, 25c; five for \$1.00. Allen Latham, Norwichtown, Conn.

THE DADANT SYSTEM IN ITALIAN—The "Dadant System of Beekeeping" is now published in Italian, "Il Sistema d'Apicoltura Dadant." Send orders to the American Bee Journal. Price \$1.00.

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

PAY YOU to receive my circular before making arrangements for your B-shipping cages. It will. "Standard" cage or any other. Bees at low price also. E. P. Stiles, P. O. Box 422, Houston, Texas.

BEE SUPPLY SALE—Best quality standard bodies with frames, lots of 50, at 90 cents each; Jumbo, \$1.00. Hoffman frames, \$37.50 per 1,000. All equipment new. Satisfaction guaranteed. We make prompt shipment. Send for free price list today. The Northern Bee and Honey Company, North St. Paul, Minn.

MISCELLANEOUS

PLANS for poultry houses; 150 illustrations. You need this book. Write for free offer and sample copy of "Inland Poultry Journal," 51 Cord Bldg., Indianapolis, Ind.

SELL IT—Honey or bees or queens or second-hand equipment or pet stock or poultry, by advertising it in *Gleanings in Bee Culture*, Medina, Ohio, with its more than 20,000 paid subscribers. Rates: 7c a word classified; \$4.20 an inch for display advertising. That great beekeeper, George S. Demuth, is editor, for whose beekeeping teachings 20,000 beekeepers subscribe.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, \$2.55 (10/6). The Apis Club, Brockhill, London Road, Camberley, Surrey, England.

BEEKEEPERS—Vitek trees pave way for future honey production. Unfilled orders, future orders, will be filled with 24- to 36-inch trees. Price, 50c per tree, postpaid. State inspected. Licensed grower. Joe Stall-smith, Galena, Kansas.

Additional Classified Advertisements
Continued on Following Page

You Can Save 75c on 3 Bee Papers

No beekeeper can learn too much about the bee business. The more good bee papers he reads, the more new and valuable ideas he will be apt to learn, all of which should make him more successful.

There are at least three bee papers that every beekeeper should have in his home, and really study them. Some offers that we believe you just can't afford to pass by, we make as follows:

Bees and Honey, 1 year	\$1.00	We Offer All 3 for Only \$2.25
American Bee Journal, 1 year	\$1.00	
Gleanings in Bee Culture, 2 years	\$1.00	
Total	\$3.00	(Or what is equal to each bee paper at less than 60c a year)

If you prefer, you can have "Bees and Honey" with "American Bee Journal"—both together for 1 year for \$1.60. Or "Bees and Honey" with "Gleanings" for 2 years—both together for \$1.80. We also offer "Bees and Honey" alone for 2 years for \$1.60, or for 3 years for \$2.25. (All offers are for U. S. and Canada only.)

Sample copy of "Bees and Honey" FREE on request. Address all orders ONLY TO—

BEES AND HONEY [Geo. W. York Editor] ALHAMBRA, CALIF.

YANCEY HUSTLERS IN PACKAGES COSTS NOTHING TO BOOK YOUR ORDER

Write for Prices and Particulars

CANEY VALLEY APIARIES, Bay City, Texas

A Bee Paradise

Minnesota, North Dakota, and Montana are developing rapidly in beekeeping and honey production. Thousands of acres of sweet clover and other valuable honey plants promote high yield and fine quality. Much good territory remains to be occupied.

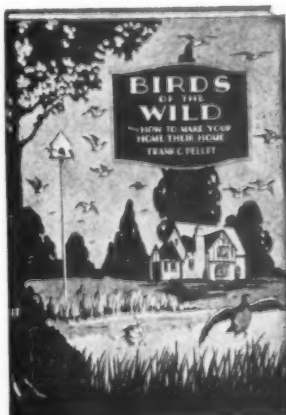
Beekeeping may be developed profitably as a sideline with diversified farming and livestock or as a specialized project. Conditions are equally favorable for bees and livestock. The most valuable feed and forage crops are easily grown and production cost is low.

Beef cattle, dairying, sheep, lambs and wool are all produced on a low cost basis on low priced land. Among the most favorable localities for bees and livestock are the Red River Valley, Milk River Valley, Lower Yellowstone Valley, Valier and Sun River irrigation projects.

Write for free book on either state and detailed information about bee raising and farming opportunities. Low Homeseekers' Round Trip Excursion Rates.

E. C. Leedy, Dept. J.

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How the Honey Came in the Christmas Dates

(Continued from page 567)

"All the bees looked. There hung a date, split open, and the pit was hanging by only a slender fiber. They swarmed upon it and soon bit away the fibre, the pit falling to the ground. The bed where it had laid was smooth and silky, not unlike the inside of a regular wax cell, only much larger. So they packed it full of honey and set to work on other dates until all had emptied their stomachs and every date on the tree had been filled.

"Now we feel better," they said. "Let us go out and get more nectar with which to build cells."

"Just then the old worker bee circled back to the swarm. 'There is no nectar; there is no nectar; no nectar,' she hummed.

"No nectar!" screamed the Queen. "How can you say such things? The fields are full of goldenrod and blue curl and wild buckwheat."

"The old worker bee settled on a leaf and wearily folded her ragged wings. 'All dead; all dead; all dead,' she mumbled.

"Go back to the hive at once; you are always complaining!"

"The old worker bee dared not disobey the Queen. After she had flown away the field bees decided it was too late to do any more work. Besides, the Queen was cross and chilly, so they clustered under the leaves again to keep warm, for the air grew sharp as the sun went down and the Christmas star rose in the East.

"Tomorrow we will fly out and see if that old bee told us the truth about the nectar," a scout murmured sleepily.

"But when they woke the next morning — Christmas day — their wings were cramped with the cold and they could not fly. Thick white frost lay on the ground, and the leaves that had been their roof had fallen off.

"I'm hungry and cold," moaned the Queen. "The light hurts my eyes and makes my head ache."

"Her attendants crawled to the nearest date. They put their tongues into the cracks, but could get no

food. They drew back in amazement, for they found the honey they had stored away in the dates had turned to candy. It was quite hard and they were too weak to bite into it.

"My beautiful yellow bees!" sobbed the Queen, as one after another in search of food lost its footing and fell to the ground, until only two attendants remained. These with the Queen huddled close on a leaf that had lodged in the branches of the tree. 'It was plain that the Queen could not long survive if food were not found quickly. She lay quite still on the leaf.

"Soon a faint humming was heard. It stopped, then began again. It drew nearer. The Queen lifted her head and listened. 'It sounds like a bee,' she whispered. 'It is a bee! It is my old foster-mother. I can tell by the whizzing of the air through her frayed wings. Perhaps she has come to help us.'

"She is too old to bring food," the attendants scoffed. But they had scarcely spoken when the old worker bee lit on the leaf and limped toward them. She was out of breath, for her load of honey was heavy and her wings were none too strong. She paid no attention to the attendants, but went straight to the Queen, sure of her welcome.

"I came as fast as I could," she panted. 'Here is your Christmas breakfast. Eat, and I will carry you back to the hive.'

"The Queen hung her head as the old worker bee told her how the baby bees were crying for their Queen Mother and how the house bees had polished a large cell for her to live in during the winter.

"She finally crawled to the old worker bee and humbly touched her battered wings. 'No, you shall have the big cell for yourself as long as you live. It shall be your Christmas present. No bee shall ever dare disturb you!'

"We are leaving all the honey the bees stored in the dates," the attendants reminded the Queen when she had eaten and they were ready to start back. 'The baby bees will need it.'

"After a moment's thought, the Queen beckoned the old worker bee over to the edge of the leaf and whispered to her. The old worker bee nodded and smiled approvingly. Then they returned to the others and announced their plan.

"Our children have sufficient food in the hive; we will leave the honey as it is. The white-bearded old man with his reindeers who passed this way last night will shake the dates down and put them in his pack for the children of men.'"

When the Queen had finished the story, the bees applauded loudly and asked for another. But she said "Good night" and backed into her

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cell to go to sleep. The bees closed in around her, and Bobby was crowded out of the circle, down to the floor again. There was an ache in his stomach. His feet were cold and a sudden icy blast as he was again lifted on the hairy leg for his long journey home sent shivers down his spine.

But something was the matter. The leg wobbled, then suddenly straightened in mid air. Bobby slipped off and felt himself falling down, down, down, faster and faster, until finally he struck something soft. He woke to find his mother had deposited him on the couch. He rubbed his eyes. Yes, there was the Christmas tree with candles ready to be lighted, the fireplace and bear-skin rug, and the packages strewn on the floor, unchanged, except for the empty date box.

"Naughty Bobby," scolded his mother as she cuddled and kissed him. "You've eaten all the dates Saidee stuffed for your Christmas tree."

Bobby sat up very wide awake. "Mother, Saidee never stuffed those dates."

But when questioned he shook his head and smiled wisely. "I know how the honey came in the Christmas dates," was all he would say.

Mendleson Reports Loss of Sage Range

Some of the most destructive brush fires in the history of southern California were raging through the hills and canyons of Los Angeles and Ventura counties about the first of November. In addition to the destruction of much valuable ranch and residence property, these fires completely denuded thousands of acres of priceless watershed. One of the sufferers from this great calamity is Mr. M. H. Mendleson, the well known veteran beekeeper of southern California. He writes:

"My sage range is almost completely destroyed by fire. My apiary and equipment were saved. The fire nearly surrounded me, but kind friends got the Ventura County fire equipment sent to my apiary to protect my property. The fire killed nearly all vegetation, including the fine oak trees. It burnt over many thousands of acres in an area forty miles long and many miles wide. The loss will amount to many hundreds of thousands of dollars to stock men, in pasturage, and also in property destroyed. We had nine days of hot east winds. These winds drove the fire westward very fast.

"I fear it will be as I told you: these extensive fires throughout the state will cause less rainfall as more watersheds are being rapidly destroyed, leaving nothing to retain or draw the moisture. The water level,

under ground, is now lower than it has ever been known to be before. Right on this ranch, on the level low ground, eight wells in a row, extending for a distance of four miles, gave no water this season.

"It was a big loss to have such a fine sage range destroyed. It will never be as good as it was, as the sage roots were killed, and no sage seed had been developed this year. Even if there had been any seed, the intense heat would have killed it. If I could afford to buy seed, I would try to re-seed the range, but it would be a mammoth undertaking and it would take a long time to do the work. I do not know whether wild alfalfa seed would survive the fire and come up or not."

Mr. Mendleson has had over sixty years' experience as a beekeeper in southern California. He is well known and highly respected. He is a close observer of nature and has made an intensive and exhaustive study of the vegetation in the region where he lives and keeps his bees, and he is especially familiar with the habits of the honey-producing plants of this part of the state. Not long since, the New Zealand Government commissioned Mr. Mendleson to select and gather seed of the California sage for the purpose of propagating these plants in that far-away country. The enterprise of that country might well be an example to our own state and national governments in replanting these denuded watersheds with honey-producing vegetation. A double purpose could thus be served: the moisture would be held in the ground and possibly attract other moisture from the clouds, and the plants thus propagated would yield a crop of the finest honey to be found anywhere in the world. Going a step farther in the suggestion, it would seem to be a comparatively simple matter for seed to be planted in these hills and canyons by means of airplanes.

The sympathies of the beekeeping world will go out to Mr. Mendleson at this time of his affliction and hardship, but he is a man to inspire more admiration than pity. He is the kind of a man who would actually start out to re-seed that range if he could afford to buy the seed; but, then, he is only 77 years old. To use his own words in regard to his present misfortune, "It is hard on me, but I will have to make the best of it."

R. B. McCain.

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Mr. Lapin, of Moscow, beekeeper and Esperantist, desires to get into touch with Esperantists who are willing to translate articles for the bee journals of their respective countries. He himself is acting as a "link" between the beekeepers of Russia and Japan in this way. His address is S. ro Lapin estas, Pretenska Kolokolnikon, kv. 15, Moscow, Russia.

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The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

The boss reminds me that we are about to publish the December Journal without a word of the big news from the staff. The girls in the office call me Grandpa now. Getting promoted into a new class is rather thrilling business. It reminds me a bit of the time when Kent arrived and I first heard myself called papa. It doesn't seem possible that there has been time for Kent to grow up and acquire a wife and then a newspaper and now a son. With all his various responsibilities he is quite too busy to write any more "Lives of Famous Beekeepers." So far as I am concerned, the newcomer is still a stranger, for I have not seen him yet. His fond grandma, however, could not stand any such strain, but took the train at once for Lehigh, Iowa, and left me to shift for myself. They named the boy after his granddad, too.

THE INSTITUTE

If Professor Kelty could have been at the Iowa convention and heard the response to the appeal which he makes for funds for the Institute, it would have done his heart good. Kelty is a whole team when he gets going, and if he could only tell the Institute story to all the beekeepers he would soon have enough money to hire another stenographer, so that all the appeals for information about honey could be sent out. Here at the office we have all been excited over Betty Crocker's story about honey on the National hookup, and Miss Fischer's daily talks over KMA and KFNF during the Mid-West show. Such things will soon make folks think more about honey. I hope that Kelty gets a bushel of checks in response to his appeal on page 570.

THOSE BIG HIVES

Over in England they are interested in the big hives. On page 571 Gilbert Barratt tells about how they work for him. We have read so much about their little hives in the English bee papers that we are surprised to find them getting interested in the big ones. In Russia the big hive seems to be all the go, as it does in several other countries on the continent. Barratt offers the same kind of arguments that Allan Eby, of Ohio, and Elmer Kennedy, of Nebraska, do in this country. E. M. Cole, of Audubon, Iowa, has been an enthusiastic booster for big hives, too, but Cole's biggest boost was when he thought of using the cellophane wrapper for honey. That was several years ago, before it came into use for every kind of food product. Cole spends his Saturdays helping in a grocery store, and, realizing how hard it is to keep exposed food products free from dust, tried the transparent wrapper. The customers liked it so well that comb honey sales picked up at once and he told the American Bee Journal about it and we told others, and now you find most of the comb honey going to market in such wrappers. Cole ought to feel happy about that idea of his, anyway.

A KICK IN THE NEWS

Over in Canada they have government control of the liquor business, and now comes word that the surplus honey will be used in the making of wine instead of using sugar. It is expected that the entire surplus of honey will be removed from the market within a few months. If it were not for the tariff on American honey going to Canada, they would find a lot of our honey moving in that direction to help along the wine business, I suppose. They argue that the honey is produced in Canada, while the sugar has to be imported, and they propose to favor home industries. Anyway it will remove a lot of unsold honey from the market and make it somewhat easier for the next crop to move.

MORE BEARS

Someway we can't get away from bear stories on this postscript page. Jes Dalton has been down in the Okefenokee Swamp to see Hamp Mizelle and to see for himself if our last month's stories are all true. Jes enquired about how fast a bear can run and was told just as fast

as a man. "Take your gun when bear hunting and jump one up; you run after him to get a shot, but to save your life you can't catch him. If you fire your load of shot and hit him, he turns around and takes after you, and you throw away your gun and to save his life he can't catch you. The weight of the gun seems to be the deciding factor." On page 579 we hear that bears are making trouble in Washington bee yards.

NEBRASKA TOOTS HER HORN

On page 575, V. W. Binderup, president of the Nebraska beekeepers, toots a small toot of his horn for Nebraska beekeeping. Really, fellows, the world don't know half that is going on in that good old state. Her average crops are among the largest and her pasture is more dependable than is the case in North Dakota, which has been so much in the limelight. In North Dakota sweet clover is grown in rotation with wheat, and when the seed price is low the sweet clover is often turned under before it blooms. When that happens it is too bad for the beekeeper. In Nebraska they raise sweet clover for pasture for the dairy cows and don't care a hang whether the price of seed is high or low, and so we find the Nebraska beekeepers getting a crop in this off year when so many of us are out of luck. Nebraska is at last getting organized and ready to go. Folks out there are rolling up their sleeves and pitching in to eradicate disease and find a market for their honey. O. S. Bare, the extension man, is conducting demonstration apiaries and L. M. Gates is tackling the disease, while Don C. Whelan is teaching beekeeping at the agricultural college. Unless all signs fail, we are to hear a lot more about Nebraska beekeeping in the future. All right, Binderup, give her another toot.

CERTIFIED HONEY

That little item on page 578 reminds us of the old saying that "Polly talked too much." We have had a lot of talk about certified honey and suggestions that no honey should be permitted to go to market unless it had a certificate stating that it comes from apiaries where no disease is present. Now we hear that France is the first country to take such talk seriously and that a large shipment of American honey is refused entrance to France for lack of such a certificate. It would be entirely impossible to put such a plan into operation in this country under present conditions. The certificate would be of no value unless every colony of bees was inspected during the season before the crop was removed. To secure such inspection would cost a sum of money so large that no legislature could be induced to make sufficient appropriation. The burden would be greater than the traffic of a small industry like ours could bear. The outcome of this foreign requirement will be watched with much interest.

NATIVE BEES

On page 579 E. E. Corbett revives an old question as to whether there were native honeybees in America. Wilder claims that there were, and undertook to show me some when we visited the big swamp, but failed to find them. According to the best information available, the small black bees which have long been known in that region were introduced by the Spanish settlers at an early period. The subject has aroused so much discussion in the past with LeSturgeon, Dalton and Wilder all jumping on me for my opinion that honeybees all came from abroad that I want to speak lightly now.

THIRTY DAYS

Glory is kind of glum just now. It is this way: The baby of the family has scarlet fever and Mrs. Cale and the youngster are quarantined upstairs for thirty days, leaving Glory to shift for himself and the rest of the family as best they may. Fortunately the son and heir seems to be making a good recovery and the Missus' sentence will soon expire and Glory will be able to smile again.

F. C. P.

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